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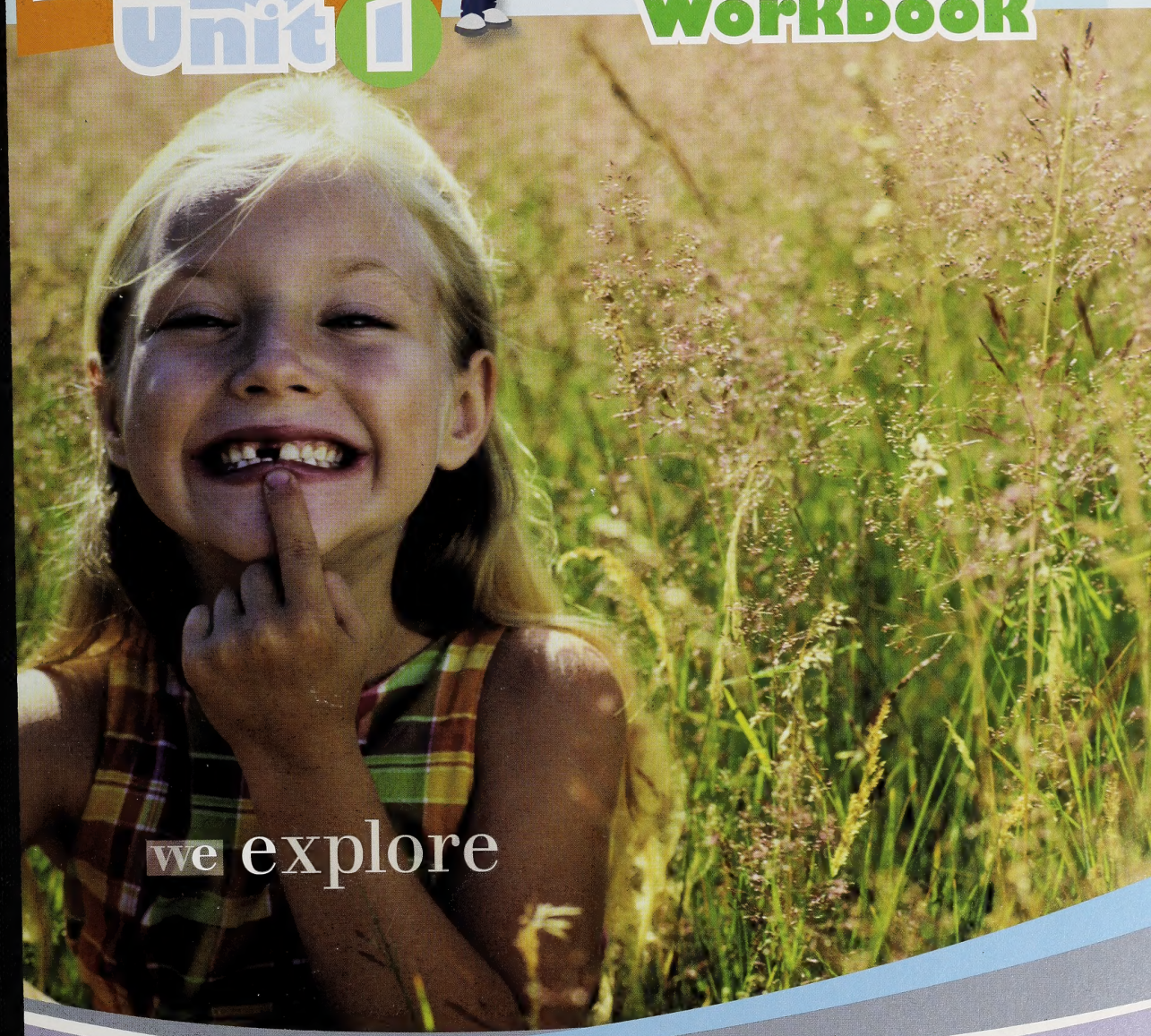
Learn EveryWare

Math 4 Unit 1

Workbook



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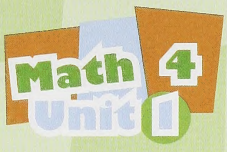

Math 4 Learn EveryWare – Unit 1 Workbook
ISBN: 978-0-7741-3048-6

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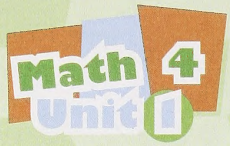

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Etraffic Press® would like to acknowledge the production and project teams of Etraffic Solutions™ Inc. and The Distributed Learning Resources Branch for their contributions to the project management, design, editing and development of this publication.

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Math 4 Unit 1

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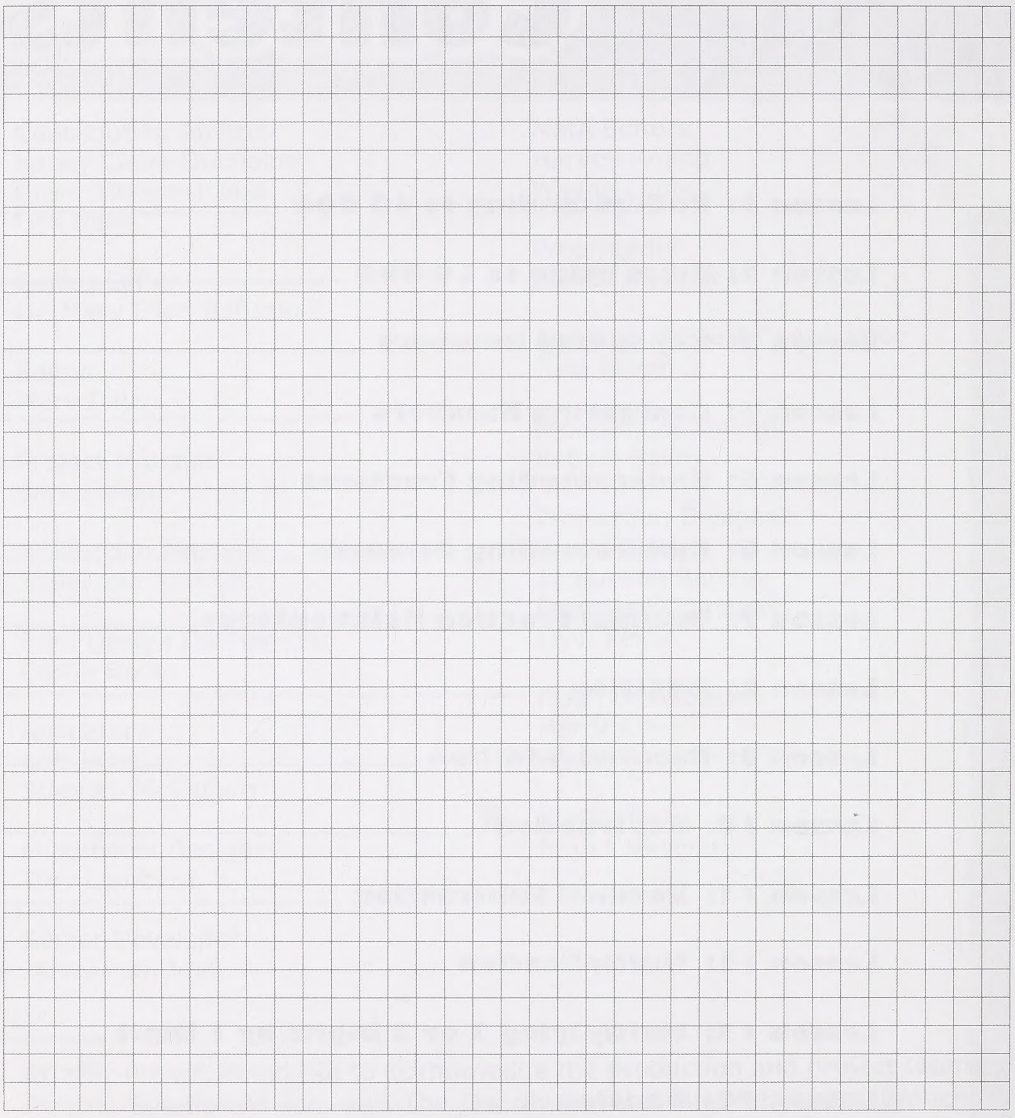
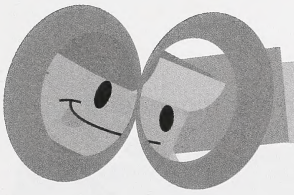


Math 4 Unit 1

Lesson 1

Understanding to 10 000



Let's Explore

Exploration 1: Building Large Numbers

Materials: Base 10 Blocks OR Base 10 Models from the back of the Unit, Pencil

Draw a model for each of the following:

1. 4 500

2. 7 250

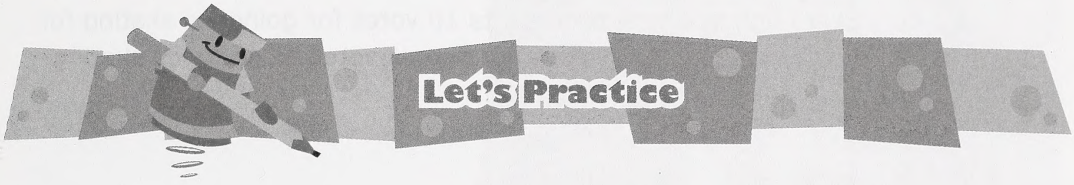
3. 8 425

4. How is the model of number 2 different from the model of number 1?

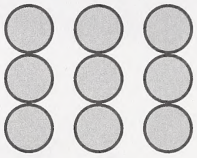
5. How is the model of number 3 different from the model of number 2?

6. Make up your own number between 5 000 and 10 000 and draw a model of that number.

7. Enrichment: Lian made this model to represent 2 350. How much does each star represent?

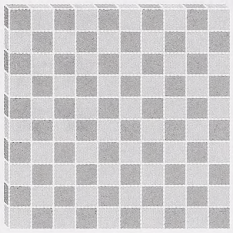


1. If each circle represents 1 000, how much do 9 circles represent?



2. If each cube represents 100, how much does the picture represent?

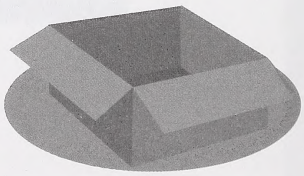
3. If this picture represents 1 000 what do 7 of them represent?



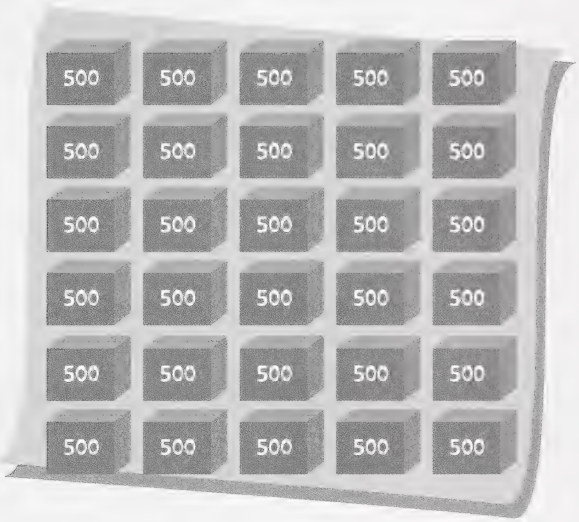
4. Every line in a tally represents 10 votes for going ice skating for the class field trip. How many people voted to go to ice skating?

5. You need to pack letters into boxes to send to the post office for mailing.

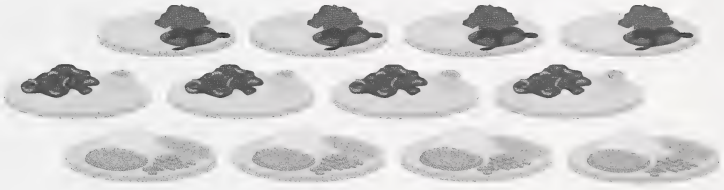
   Each box holds 1 000 letters. How many boxes will you need for 8 950 letters? Draw a picture representation to solve.



6. If each box holds 500 sheets of paper how many sheets are in the boxes?



7. If each meal has 1 000 calories how many calories are there in the meals?



8. If a circle represents 1 000, how many circles do you need to represent 10 000? Draw a picture representation to solve.

9. A star sticker represents 100 tokens. How many stars do you have if you have 1 500 tokens. Draw a picture representation to solve.

10. Each smiley represents 100 points and you have 20 of them. How many points do you have? Draw a picture representation to solve.

11. Reflection: Create your own symbol to represent the number 100 and use it to draw a picture of 1 700.

Mixed Review

Skip count to fill in the missing values:

1.

2	4				14			20

2.

15	20	25						

3.

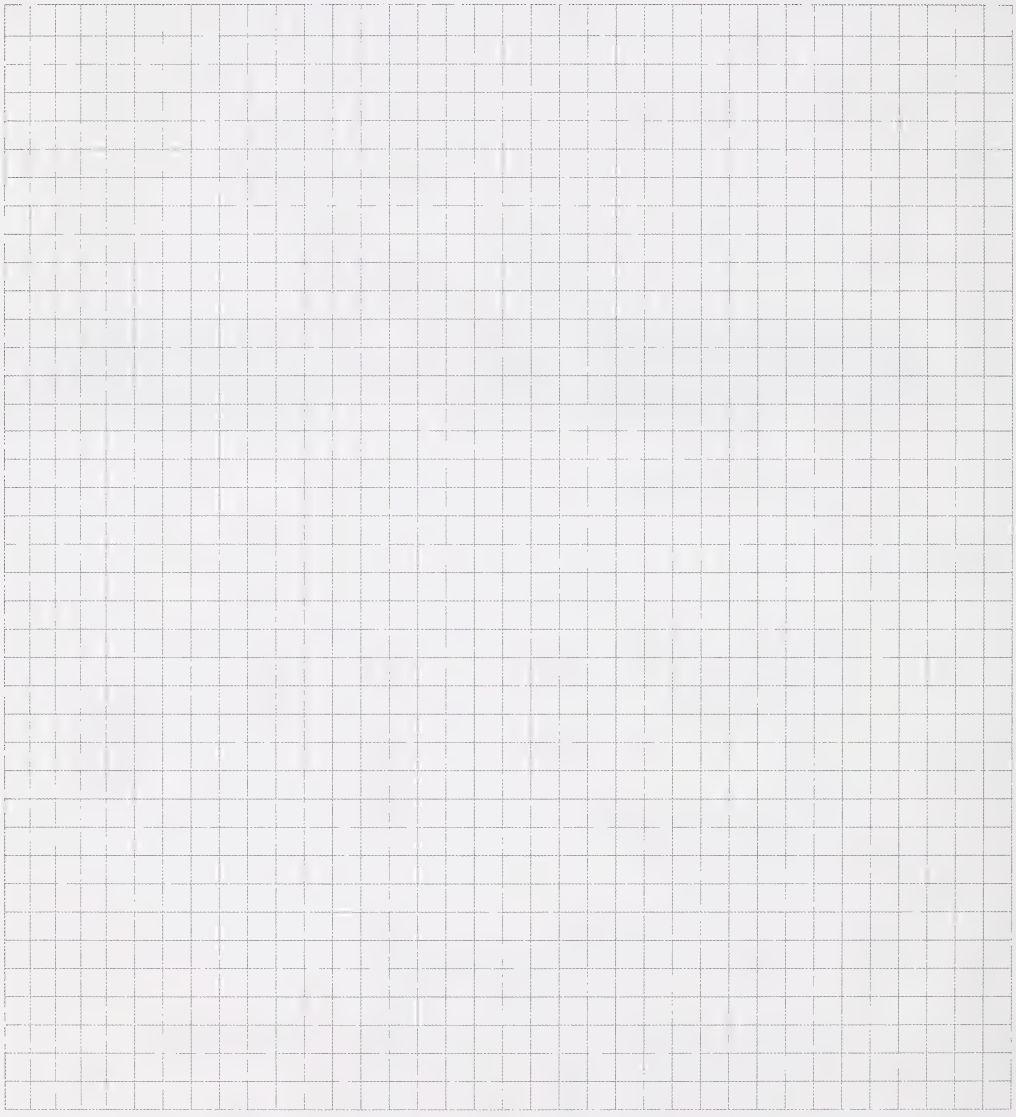
30	27	24				12		

4.

16	20	24					44	

5.

100	95	90						60



Lesson 2

Place Value to 10 000

Exploration 1: Writing Numbers in Standard and Word Form

Materials: Paper, 10 index cards, Marker

Most people do not have a lot of cash with them everyday. This means they may write a cheque to pay for something. If you are sending money, you shouldn't mail cash. You will need to mail a cheque instead.

In this activity you will use the index cards to help you create numbers. You will then write the numbers in standard and word form - just like you do on a cheque. You can complete this activity as an individual or with a partner. If you are working with a partner have him or her check your work when you have completed each problem.

1. Write the digits 0 - 9 on the index cards using your marker. There should be one card for each digit. Shuffle the cards like you would a deck of playing cards. Stack them in a pile face down.

2. Draw the top five cards and lay them in row face up. Use your marker to write the 5 digit number you just created in standard form on the your paper.

3. Write that same number in word form on the paper using your marker.

4. Reshuffle all 10 index cards and start the process again. Repeat instructions 2 and 3, 5 times. Save your index cards when you are finished. You will use them again later.

Let's Practice

There is a page of Place Value Charts in the Workbook at the end of the Unit. Use them if you need help with any of these problems. Write in them with pencil, as you may need to use them more than once.

For 1 - 2: Write each of the following in words.

1. 32 450 _____

   _____

2. 90 204 _____

   _____

For 3 - 6: Write each of the following in standard form.

3. twelve thousand _____
4. fifty three thousand, two hundred forty eight _____
5. eighty thousand, one hundred eighteen _____
6. seventeen thousand, five hundred _____

For 7 - 8: Name the value of the blue number in each table.

7. _____

Ten Thousands	Thousands	Hundreds	Tens	Ones
2	1	7	8	3

8. _____

Ten Thousands	Thousands	Hundreds	Tens	Ones
7	5	8	0	6

For 9 - 13: Write the value of the orange digit.

9. 34 908 _____

10. 98 706 _____

11. 794 _____

12. 1 345 _____

13. 70 854 _____

For 14 - 18: Complete or answer the question.

14. 71 264 = seventy one _____, two hundred sixty four

15. Which digit is in the thousands place in 12 986? _____

16. Which digit is in the ten-thousands place in 45 861? _____

17. Write a number with a value of 80 000 in the ten thousands place.

_____

18. Write a number with a value of 2 000 in the thousands place.

_____

19. Reflection: How does the space in a place value of a number help you to understand the value?

Mixed Review

The moons of Jupiter have the diameters shown in the table. Use the data to answer the following questions.

Size of Jupiter's Moons	
Moon Name	Diameter in Kilometres
Callisto	4 801
Europa	3 128
Ganymede	5 625
Io	3 640

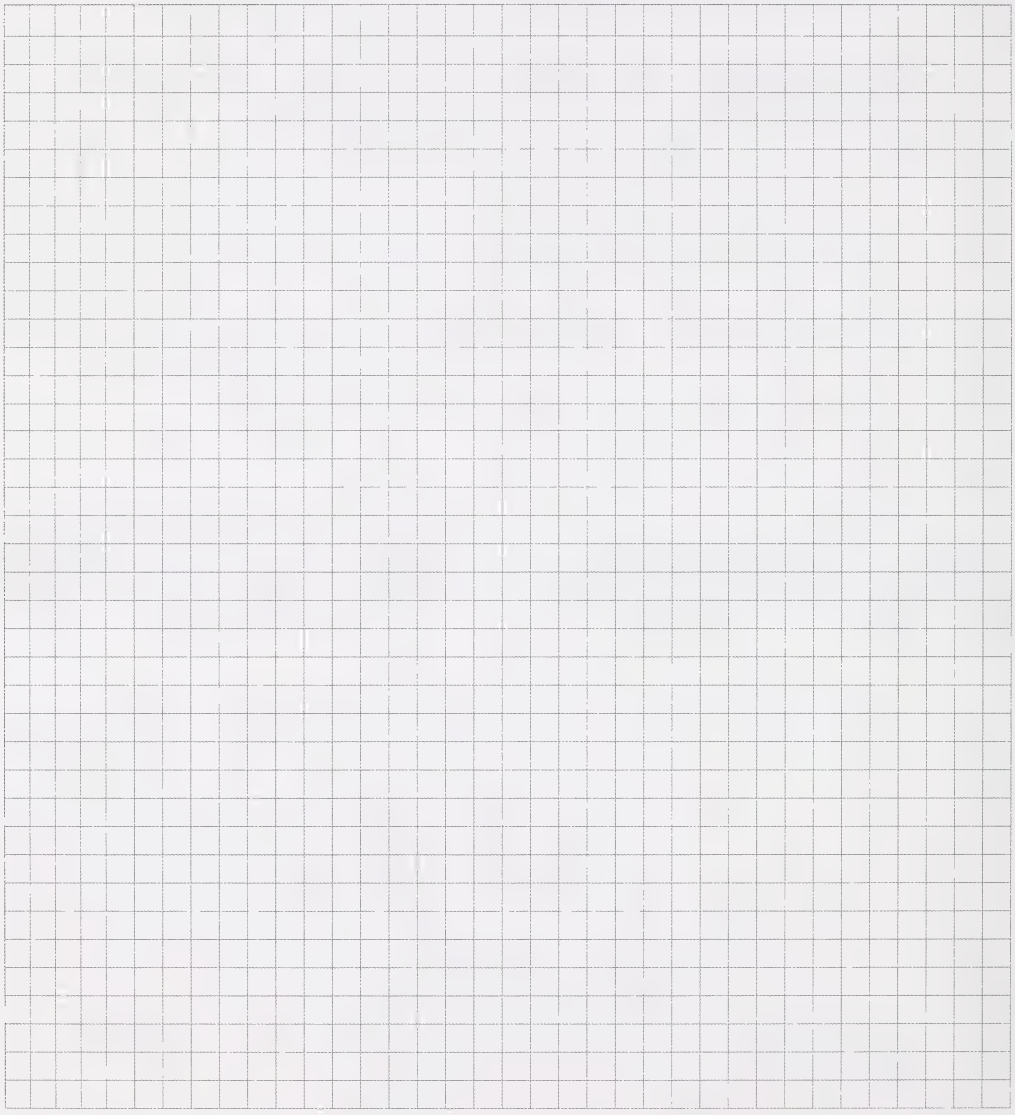
1. What is the value of 8 in the diameter of Callisto?

2. What is the value of 2 in the diameter of Europa?

3. What is the value of 6 in the diameter of Io?

4. Which is the moon with the largest diameter?

5. Which is the moon with the smallest diameter?



Math 4 Unit 1

Lesson 3

Expanding Numbers

Let's Practice

There is a page of Place Value Charts in the Workbook at the end of the Unit. Use them if you need help with any of these problems. Write in them with pencil, as you may need to use them more than once.

For 1 - 10: Write each number in expanded notation.

1. 798 _____
2. 1 432 _____
3. 987 _____
4. 8 054 _____
5. 14 408 _____
6. 3 020 _____
7. 6 322 _____
8. 10 512 _____
9. 4 943 _____
10. 761 _____

For 11 - 15: Write each expanded notation in standard form.

11. 5 000 + 600 + 80 + 3 _____

12. 30 000 + 600 + 20 _____

13. 800 + 10 + 6 _____

14. 7 000 + 600 + 50 + 2 _____

15. 60 000 + 8 000 + 100 + 30 _____

16. Reflection: How do you write a number in expanded form?

Mixed Review

1. Place the following numbers in order from least to greatest.

502, 498, 520, 489

2. Place the following numbers in descending order.

   9 768, 9 678, 9 679, 9 834

3. Make as many 3 digit numbers as possible using the following 3 digits.

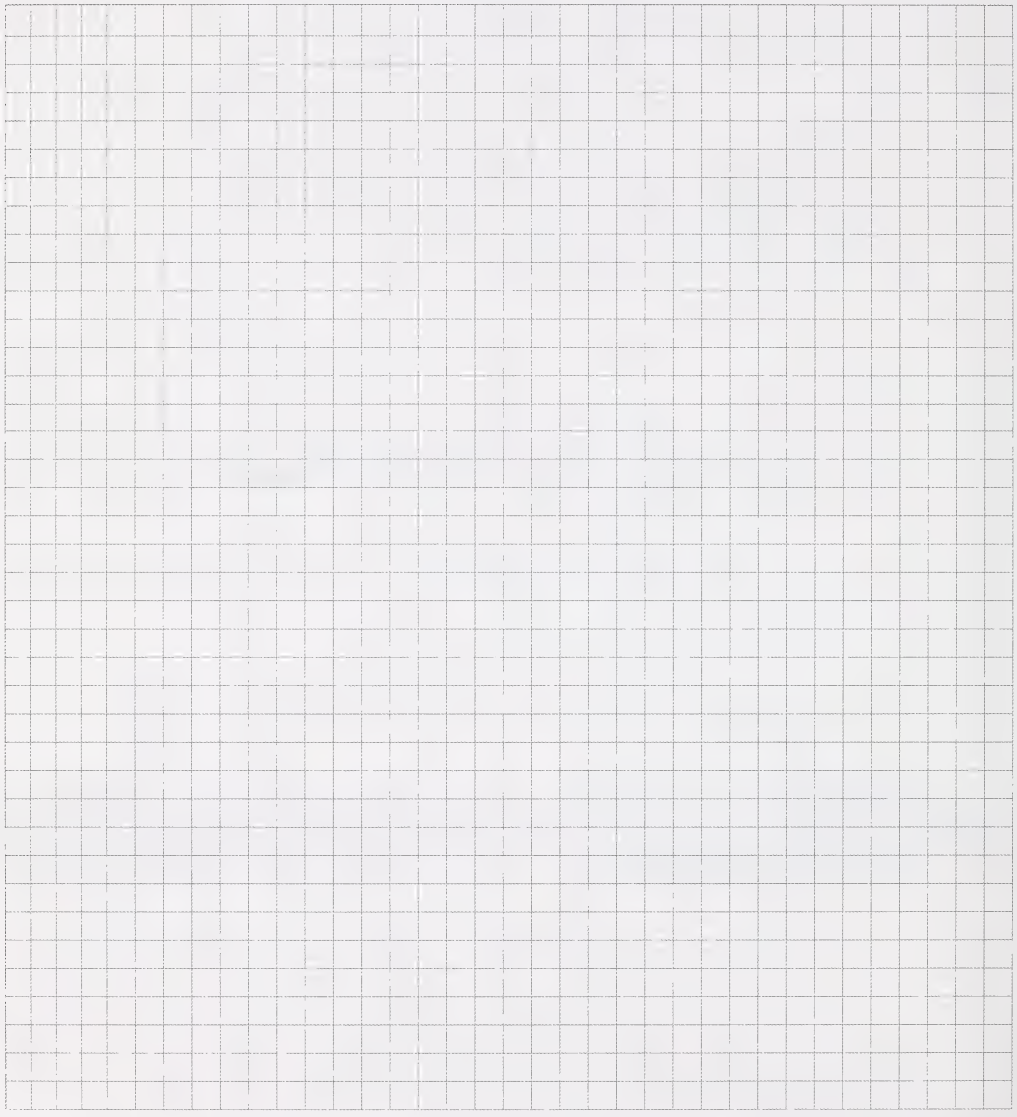
   1 8 5

4. Make as many 3 digit numbers as possible using the following 3 digits. Put the 3 digit numbers in ascending order.

   4 3 2

5. Identify the missing numbers in the following portion of a hundreds chart:

61	62	63				67	68	69	
	72	73	74	75			78		
		83	84		86				90



Lesson 4

Comparing Numbers

Exploration 1: Create and Compare Numbers

Materials: One die, Pencil

In this Exploration you will use a die to help you to create two 5 digit numbers. After you create these numbers you will compare them and answer questions.

1: Find Problem 1. You will see two rows: Row A and Row B. Each row has 5 lines. Roll the die and write the number rolled on one of the lines in Row A. Repeat this until all blanks have a number.

2: Repeat the same process from number 1 until Row B has five numbers.
You have now created two 5 digit numbers.

3: Compare the two numbers and answer the following questions:
Which number is larger?
Explain how you know which number is larger.
Which place value position determined your answer?

4: Repeat the process of creating and comparing two 5 digit numbers for the rest of the problems.

Problems 1 – 5:

1. A _____ _____ _____ _____ _____
   B _____ _____ _____ _____ _____
   Which number is larger?

   Explain how you know which number is larger.

   Which place value position determined your answer?

2. A _____ _____ _____ _____ _____
   B _____ _____ _____ _____ _____
   Which number is larger?

   Explain how you know which number is larger.

   Which place value position determined your answer?

3. A _____ _____ _____ _____ _____
   B _____ _____ _____ _____ _____
   Which number is larger?

   Explain how you know which number is larger.

   Which place value position determined your answer?

4. A _____ _____ _____ _____ _____
   B _____ _____ _____ _____ _____
   Which number is larger?

   Explain how you know which number is larger.

   Which place value position determined your answer?

5. A _____ _____ _____ _____ _____
   B _____ _____ _____ _____ _____
   Which number is larger?

   Explain how you know which number is larger.

   Which place value position determined your answer?

There is a page of Place Value Tables in the Workbook at the end of the Unit. Use them if you need help with any of these problems. Write in them with pencil, as you may need to use them more than once.

For 1 - 10: Compare and write >, <, or = in the ◯.

1. 564 ◯ 556
2. 9 618 ◯ 9 681
3. 265 ◯ 481
4. 1 997 ◯ 1 983
5. 511 ◯ 444
6. 779 ◯ 809
7. 818 ◯ 188
8. 4 133 ◯ 4 204
9. 33 320 ◯ 32 128
10. 13 200 ◯ 13 147

For 11 - 13: Order each group of numbers from least to greatest.

11. 116, 611, 304, 161
12. 2 736, 2 279, 2 631, 2 460
13. 8 491, 8 149, 8 144, 8 194

For 14 - 16: Order each group of numbers from greatest to least.

14. 185, 718, 781, 915

15. 3 961, 3 916, 1 140, 2 848

16. 9 678, 9 566, 9 687, 10 786

17. Reflection: Do you need to use a place value table to compare numbers? If yes, why does it help? If no, describe how you compare and order the numbers.

Mixed Review

1. Sort the following numbers according to the number of digits.

12	57	255	8 712	647
3 268	20	963	3 574	8 520

2. Classify the following numbers as odd or even using the following chart:

951	123	654	52	74
9 845	3 598	5 478	34	687

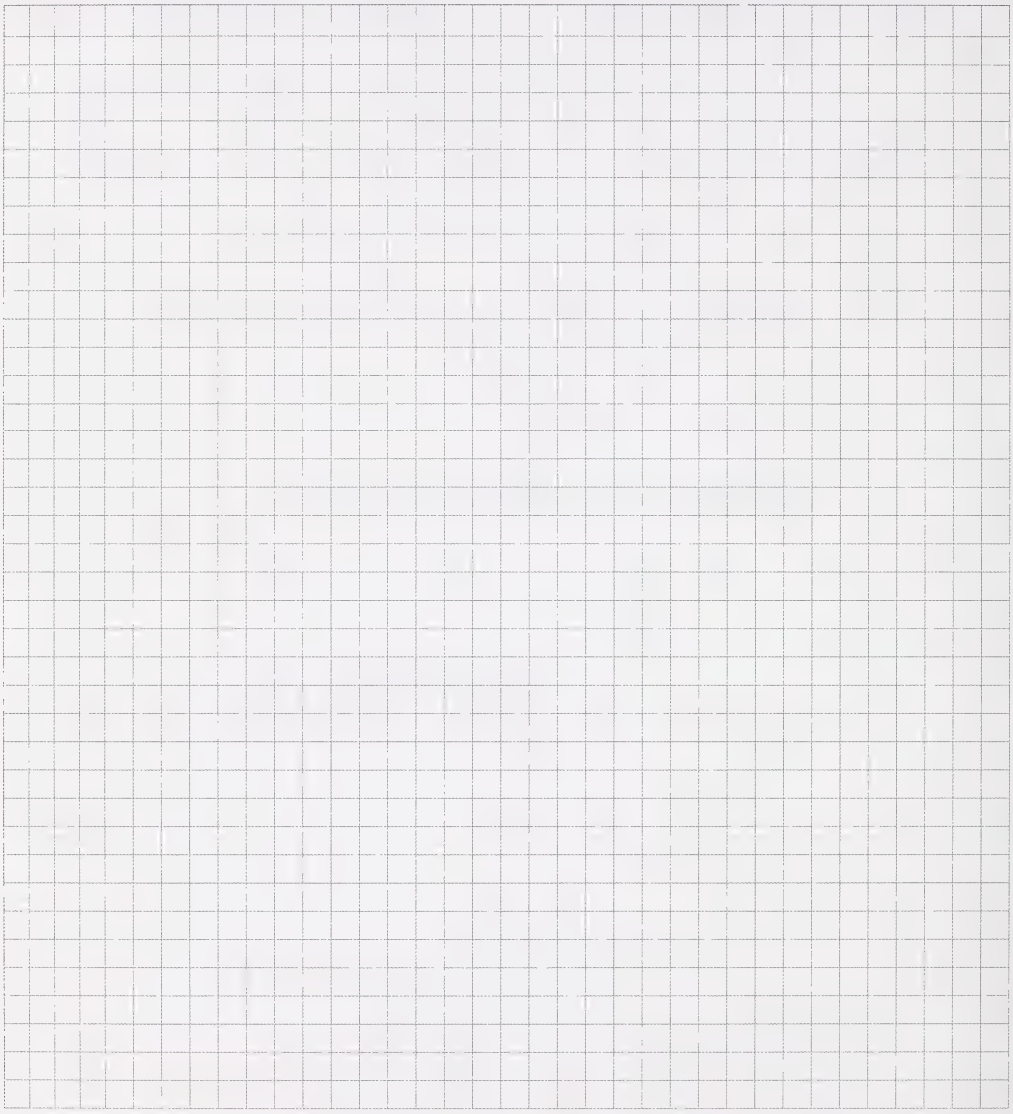
Odd	Even

3. Classify the following numbers into two groups. Label the groups.

159	$2\frac{1}{2}$	63	$3\frac{1}{3}$	879
$64\frac{1}{4}$	651	$\frac{3}{4}$	5	1 452

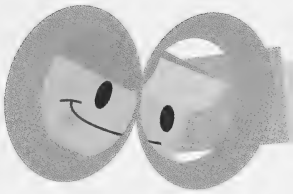
4. Represent the number 302 using 2 different expressions.

5. Represent the number 85 using pictures.



Lesson 5

Understanding Fractions

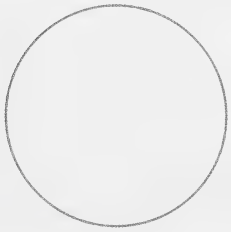


Let's Explore

Exploration 1: Parts of a Whole

Materials: Pencil

1. Draw four equal parts on the circle. Shade all 4 parts.



2. What is the denominator for a fraction represented by this circle?

3. What is the numerator?

4. Write the fraction for the shaded part of the circle.

5. Draw 8 equal parts on the circle.

6. What is the denominator for a fraction represented by this circle?

7. What is the numerator?

8. Write the fraction for the shaded part of the circle.

9. Reflection: What would happen if you separated a circle into 12 parts and shaded 12? What would be the fraction of the shaded parts?

10. Reflection: What if you shade 30 out of 30 parts?

Exploration 2: Parts of a Set

Materials: A package of small multi-coloured objects

1. What are the colours of the objects in your package?

2. List the colours in the table.

Colour	Number in Package

3. What is the number of each object in the package? Complete this information in the table.

4. How many objects are there in all?

5. Write a fraction for the part of the package each colour makes.

6. Reflection: How are parts of a set different from parts of a whole? How are they the same?

Exploration 3: Comparing Fractions

Materials: Fraction strips

Compare using <, >, or =:

$\frac{1}{5}$ _____ $\frac{1}{2}$ $\frac{2}{6}$ _____ $\frac{4}{10}$ $\frac{3}{8}$ _____ $\frac{4}{12}$

Use fraction strips to model each fraction.

Reflection: How do the fraction strips help you to identify larger fractions?

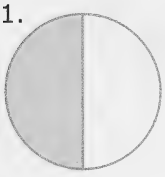
Use fraction strips to model each fraction.

$\frac{3}{4}, \frac{4}{6}, \frac{1}{3}, \frac{5}{8}, \frac{5}{12}$

Put the fractions in order from smallest to largest.

Reflection: How did you use the fraction strips to put the fractions in order?

For 1–4: Write a fraction for the shaded part of each figure.

1. 

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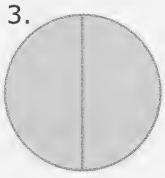
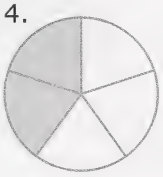
3. 

4. 

_____ _____ _____ _____

For 5–10: Colour the correct amount to illustrate the fraction.

5.
$\frac{7}{8}$

6.
$\frac{6}{10}$

7.
$\frac{4}{6}$

8.
$\frac{4}{5}$

9.
$\frac{2}{4}$

10.
$\frac{4}{7}$

11. Lian, Cameron, Nina, and Zach share a pizza.

    The pizza is cut into equal parts.
    They will each eat 1 part.
    No pizza will be left.
    Which one is their pizza?

For 12–13: Use the rectangle to answer the following questions.

12. Write the fraction for the shaded part.

13. Write the fraction in words for the shaded part.

For 14–19: Compare and write <, >, or =. Use the pictures provided to solve.

14. $\frac{4}{5}$ _____ $\frac{1}{5}$

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	
$\frac{1}{5}$				

15. $\frac{2}{3}$ _____ $\frac{1}{3}$

$\frac{1}{3}$	$\frac{1}{3}$	
$\frac{1}{3}$		

16. $\frac{4}{7}$ _____ $\frac{3}{7}$

$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$			
$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$				

17. $\frac{1}{6}$ _____ $\frac{5}{6}$

$\frac{1}{6}$					
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	

18. $\frac{2}{10}$ _____ $\frac{4}{10}$

$\frac{1}{10}$	$\frac{1}{10}$								
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$						

19. $\frac{5}{8}$ _____ $\frac{7}{8}$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$			
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	

For 20–25: Compare the following fractions. Use your fraction strips to solve.

20. $\frac{1}{3}$ _____ $\frac{1}{4}$

21. $\frac{1}{2}$ _____ $\frac{6}{12}$

22. $\frac{2}{5}$ _____ $\frac{2}{6}$

23. $\frac{1}{2}$ _____ $\frac{5}{8}$

24. $\frac{3}{4}$ _____ $\frac{2}{3}$

25. $\frac{4}{8}$ _____ $\frac{4}{10}$

For 26–29: Solve.

26. Cameron is going to archery camp. He has seven good arrows and fifteen arrows that are broken. What fraction of Cameron's arrows are good?

27. Daksha has one horse and ten goats. What fraction of Daksha's animals are goats?

28. Nina has nine old notebooks and one new notebook. What fraction of Nina's notebooks are old?

29. We saw ten female lions and five male lions at the zoo. What fraction of the lions were male?

30. Reflection: What are some models for fractions? What models help you understand and compare fraction the most?

Mixed Review

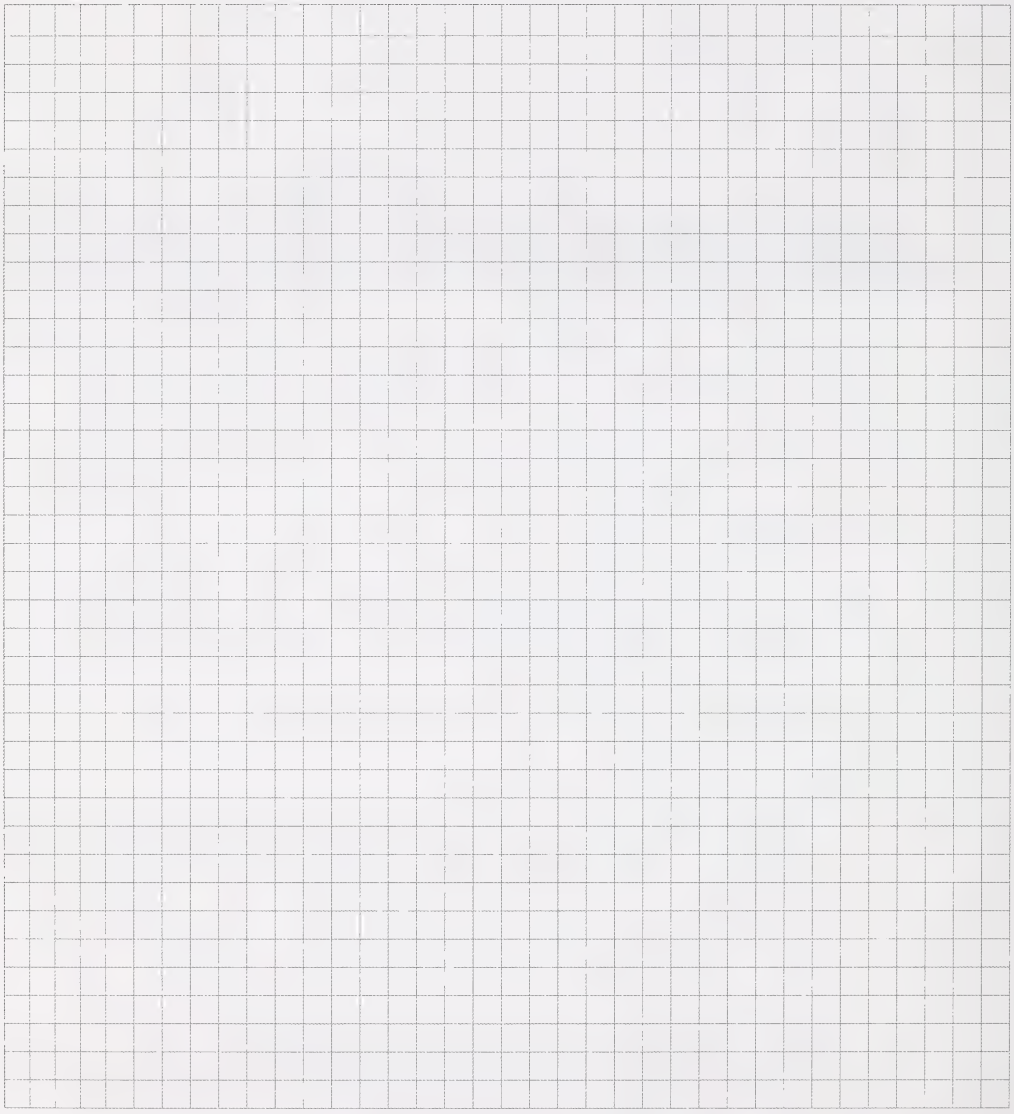
1. Multiply. 3 x 1

2. Multiply. 5 x 4

3. Multiply. 2 x 3

4. Multiply. 4 x 2

5. Multiply. 3 x 5



Lesson 6

Understanding Decimals

Exploration 1: Making Decimal Models

Materials: Base 10 Blocks OR Base 10 Models from the back of the Unit.
Scissors, if you need to cut out the Base 10 Models

1. Model each of the following:

   a. 3.05 b. 2.53 c. 1.48

2. Gather the following: 4 flats, 3 longs and 7 unit cubes. What is the decimal for this model?

3. Create your own model. Describe the model and write the decimal for the value it represents.

Exploration 2: Money and Decimals

Materials: At least 10 pennies and 10 dimes
At least 5 Loonies

Make the following amounts using pennies, dimes, and Loonies.

1. $4.55 2. $2.34 3. $1.82 4. $3.51

Write the decimal for the value of each combination.

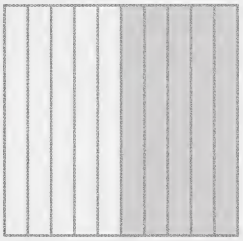
5. 3 Loonies, 7 dimes, 8 pennies

6. 1 Loonie, 4 dimes, 5 pennies

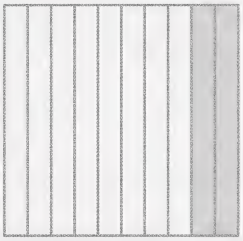
7. 5 Loonies, 3 dimes, 9 pennies

Let's Practice

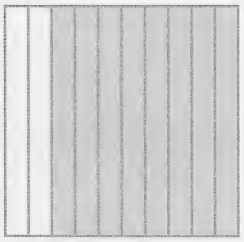
For 1 - 9: Name the decimal for the shaded part of the model or the number line.



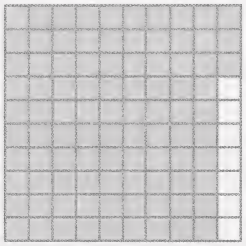
1. Decimal:_____



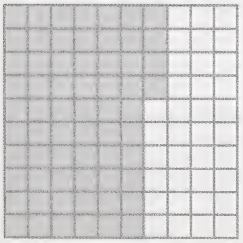
2. Decimal:_____



3. Decimal:_____

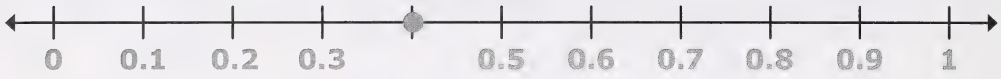


4. Decimal:_____

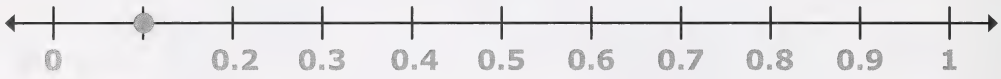


5. Decimal:_____

6. Decimal: _____



7. Decimal: _____



8. Decimal: _____

9. Decimal: _____

There is a page of Decimal Place Value Charts in the Workbook at the end of the Unit. Use them if you need help with any of these problems. Write in them with pencil, as you may need to use them more than once.

For 10 - 14: Write the following in standard form.

10. eighty seven hundredths _____

11. eight tenths _____

12. seven hundredths _____

13. forty three hundredths _____

14. fifteen hundredths _____

For 15 – 18: Write the following in words.

15. 0.23 _____

16. 0.06 _____

17. 0.19 _____

18. 0.50 _____

19. Reflection: Describe how to write the value of a decimal in words.

Write each repeated addition expression as a multiplication sentence. Find the answer.

1. 2 + 2 + 2 + 2 + 2

2. 5 + 5 + 5 + 5

3. 3 + 3 + 3 + 3 + 3

4. 4 + 4

5. 1 + 1 + 1 + 1 + 1

Lesson 7

Decimal Fraction Relationships

Exploration 1: Decimal and Fraction Patterns

Materials: Pencil

Observe the table of equivalent fractions and decimals:

Fraction	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{7}{10}$	$\frac{9}{10}$	$\frac{4}{100}$	$\frac{23}{100}$	$\frac{30}{100}$	$\frac{68}{100}$
Decimal	0.3	0.6	0.7	0.9	0.04	0.23	0.30	0.68

1. If the fraction's denominator is 10, how many decimal places are there?

2. If the fraction's denominator is 100, how many decimal places are there?

3. Draw a model for $\frac{3}{10}$ AND 0.3.

4. What decimal would be equivalent to $\frac{4}{10}$?

5. What fraction would be equivalent to 0.5?

6. Create a picture model that represents 0.5.

7. Reflection: What do a fraction and a decimal have in common?

Let's Practice

For 1 - 4: Write the fraction for each decimal in the place value table.

1.

Ones	.	Tenths	Hundredths
0	.	1	6

2.

Ones	.	Tenths	Hundredths
0	.	0	5

3.

Ones	.	Tenths	Hundredths
0	.	3	3

4.

Ones	.	Tenths	Hundredths
0	.	2	

For 5 - 15: Write each decimal as a fraction.

5. 0.04
6. 0.59
7. 0.05
8. 0.52
9. 0.09
10. 0.96
11. 0.2
12. 0.08
13. 0.23

14. Nina has $0.45 and wants to know what part of a dollar she has. Write 0.45 as a fraction.

15. Cameron has $0.06 and wants to know what part of a dollar he has. Write 0.06 as a fraction.

For 16 - 25: Write each fraction as a decimal.

16. $\frac{2}{100}$

17. $\frac{7}{10}$

18. $\frac{65}{100}$

19. $\frac{1}{10}$

20. $\frac{8}{10}$

21. $\frac{15}{100}$

22. $\frac{1}{100}$

23. $\frac{3}{100}$

24. Alyssa has $\frac{18}{100}$ of a dollar. What is the dollar amount that she has?

25. Zach has $\frac{4}{100}$ of a dollar. What is the dollar amount that he has?

26. Reflection: How does place value help you to write decimals as fractions?

Mixed Review

Circle the fraction that represents the largest amount.

1. $\frac{2}{6}$

   $\frac{4}{6}$

2. $\frac{4}{5}$

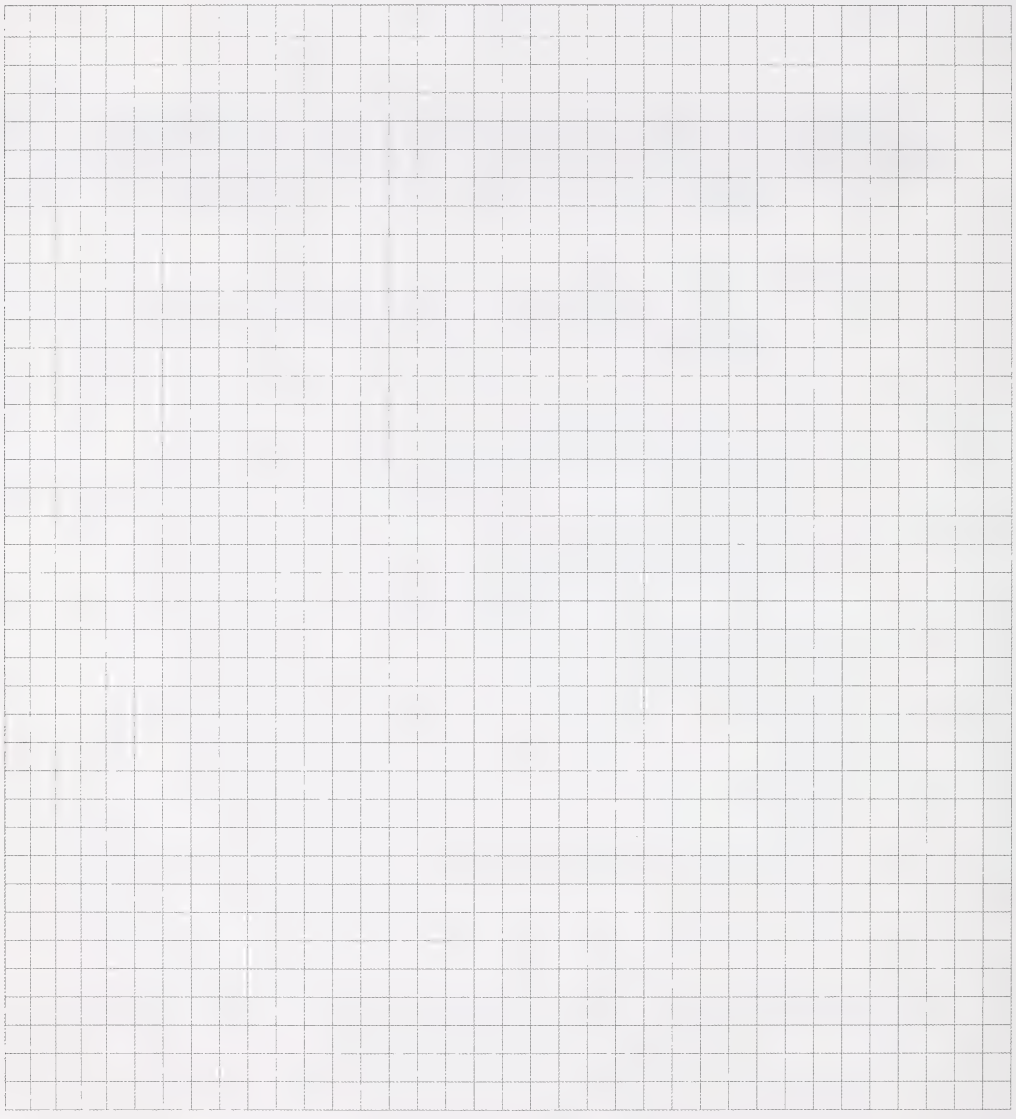
   $\frac{2}{5}$

Multiply

3. 2 x 4

4. 4 x 3

5. 2 x 5



Lesson 8

Addition

Exploration 1: Regrouping

Materials: Hundred Squares from the end of the Unit in your Workbook, Scissors, Pencil

Use the scissors to cut out the Hundred Squares.

1. Create a model for 421 and 293.
2. Use the models to add 421 + 293. What is the sum?

3. What value(s) had to be regrouped when you added 421 + 293?

4. Create your own model of two 3-digit numbers.

5. Use the models to add. What is your addition problem and the sum?

6. What value(s) had to be regrouped when you added your numbers together?

Exploration 2: Add 'em Up!

Materials: Paper, Marker, 10 index cards

This Exploration activity is all about practicing your addition skills. You will randomly choose cards and add together the numbers on them. Let's see how high your sum can be!

1. Write each of these numbers on the index cards. Write only one number per card.

   856 4 371 924 546 3 214 650 5 682 3 810 1 094 865

2. Shuffle the number cards just like a regular deck of cards and place them in a stack face down.

3. Draw the top card and write it down on your paper. Draw the next card on the top of the stack and write it underneath the first number on your paper.

4. Add the two numbers together using column addition.

5. Repeat instructions 2 through 4 with the remaining cards. You should complete a total of 5 questions.

Answer the following questions:

1. If you could choose any two numbers out of the ten numbers on the cards, which two cards would give you the largest answer?

2. If you could choose any two numbers out of the ten numbers on the cards, which two cards would give you the smallest answer?

Exploration 3: Estimating Sums

Materials: Paper, Pencil

Use this problem to answer the following questions.

$$\begin{array}{r} 1\,495 \\ +\ 3\,968 \\ \hline \end{array}$$

1. What does the problem look like when front-end estimation is used?

2. Estimate the sum using front-end estimation.

3. How would you set up the problem for compatible numbers?

4. What is the solution to your problem for compatible numbers?

5. What is the actual sum?

6. Is this answer closer to the estimate for front-end estimation or compatible numbers?

7. Reflection: Why do you think that is?

Let's Practice

For 1 - 16: Find the sum. Use the place value charts at the back of the Unit in your workbook, if needed.

1. 828 + 361

2. 219 + 701

3. 236 + 710

4. 432 + 567

5. 438 + 297

6. 627 + 326

7. 378 + 577

8. 1 377 + 198

9. 832 + 138

10. 277 + 235

11. 4 318 + 6 916

12. 2 532 + 6 389

13. 3 567 + 189

14. 6 428 + 3 287

15. 7 458 + 1 589

16. 5 672 + 3 187

For 17 - 25: Estimate the sum using front-end rounding or compatible numbers. Show your work.

17. 1 495 + 3 968

18. 567 + 458

19. 4 385 + 1 267

20. 6 218 + 2 825

21. 5 129 + 2 987

22. 876 + 328

23. $\begin{array}{r} 3\,726 \\ +\ 4\,210 \\ \hline \end{array}$

24. $\begin{array}{r} 5\,457 \\ +\ 4\,118 \\ \hline \end{array}$

25. $\begin{array}{r} 3\,210 \\ +\ 5\,810 \\ \hline \end{array}$

For 26 - 28: Write a number sentence for each problem. Solve.

26. Nina has 285 screws in her garage. She gathers 328 more from the basement. How many screws does Nina have now?

27. Last year 385 people attended Zach's family reunion. This year his mom says there will be 120 more people at the reunion than last year. How many people will be at the reunion?

28. 2 850 people purchased advance tickets to the opening hockey match of the season. If 297 more bought tickets at the gate, how many people bought tickets altogether?

29. Reflection: Describe the process of regrouping to add large numbers.

Mixed Review

1. Represent the number 47 using tally marks.

2. Represent the number 24 using pictures.

3. Estimate the number of groups of ten in the number 136.

For 4 – 5: Use the following to write one possible expression as described in these problems.

The number 245 can be expressed as an addition expression:

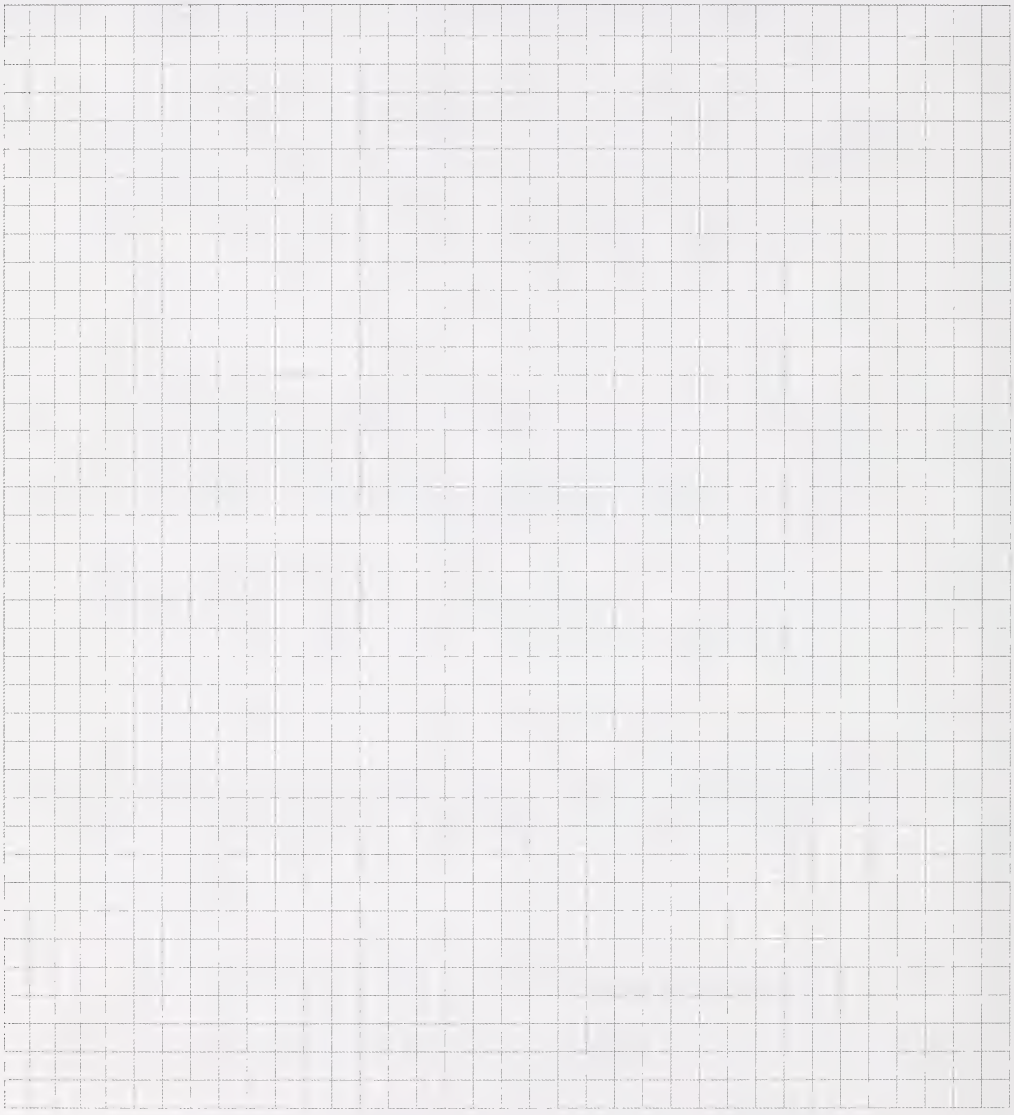
One possible answer: 145 + 100 = 245

The number 245 can also be expressed as a subtraction expression:

One possible answer: 319 – 74 = 245

4. Write the number 128 as an addition expression.

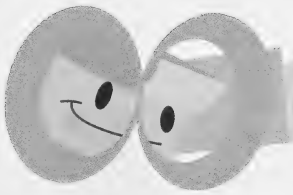
5. Write the number 73 as a subtraction expression.



Math 4 Unit 1

Lesson 9

Decimal Addition



Let's Explore

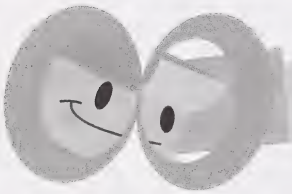
Exploration 1: Adding Decimals

Materials: Hundred Squares from the back of the Unit in your Workbook, Paper, Pencil

A triathlon is an event where athletes swim, bike and run. There are triathlons of different distances. Here are a few:

	Swim	Bike	Run
Olympic	1.5 km	40 km	10 km
Half Iron Man	1.9 km	90 km	21.09 km
Iron Man	3.8 km	180 km	42.2 km

Find the sum of the distances for each triathlon, on your own paper.



Let's Explore

Exploration 2: One Scoop or Two?

Materials: Base 10 Blocks, Coloured pencils, Pencil

On Monday after school you decided to treat your best friend to an ice cream cone at your local ice cream shop. When you arrive at the shop you look at the menu and decide what you want to order. Here is the menu:

Sugar Cones	
One Scoop	$1.50
Two Scoops	$2.25
Waffle Cones	
One Scoop	$2.25
Two Scoops	$3.00

Use the concept map to help you with this.

1. Read the menu and decide what both you and your friend will order. List your order.

2. In the square labelled PROBLEM of the map write the two numbers as an addition problem.

3. Model the addition problem on your desktop using the Base 10 Blocks.

4. In the square labelled DRAW, draw a picture of each of the Base 10 Block models. You may use the flats, longs and single squares. Use your coloured pencils to shade the blocks.

5. In the square labelled STRATEGY, complete the addition problem by using the expanded notation strategy.

6. In the square labelled ANOTHER STRATEGY, complete the addition problem by lining up the decimals and adding.

Problem	Draw
Strategy	Another Strategy

Let's Practice

For 1 - 16: Add.

1. 12.35 + 8.45	2. 7.65 + 2.81	3. 14.97 + 5.46	4. 15.8 + 4.32
5. 43.22 + 56.89	6. 11.93 + 29.01	7. 8.39 + 3.47	8. 16.91 + 9.07
9. 42.67 + 5.38	10. 27.15 + 82.21	11. 32.57 + 9.29	12. 12.08 + 11.93
13. 132.8 + 213.7	14. 42.37 + 56.79	15. 32.08 + 29.30	16. 38.91 + 17.23

For 17 - 20: Estimate the sum using front-end estimation. Show your work.

17. 28.08 + 19.2

18. 12.97 + 42.21

19. 82.12 + 38.97

20. 24.5 + 54.29

For 21 - 24: Estimate the sum using compatible numbers. Show your work.

21. 52.95 + 73.11

22. 28.12 + 90.14

23. 42.5 + 14.2

24. 29.8 + 63.29

For 25 - 26: Complete the following.

25. 12.87 + 19.21

a. Write the number sentence for front end estimation and solve:

b. Write a number sentence using compatible numbers and solve.

c. Which of these do you think is closer to the actual sum? Why?

26. 30.14 + 95.3

a. Write the number sentence for front end estimation and solve:

b. Write a number sentence using compatible numbers and solve.

c. Which of these do you think is closer to the actual sum? Why?

For 27 - 30: Write a number sentence and solve.

27. Zach bought his mom one rose for $3.56 and a box of chocolate for $10.25 on Mother's Day. About how much did he spend?

28. Alyssa made a 1.2 metre row of daisies in her garden. She then continued the row with 2.4 metres of pansies. About how long is the row of flowers?

29. A runner takes a package 12.5 km and then passes it to the next runner who carries the package another 4.8 km. About how many metres did the package travel?

30. Daksha donates $15.75 to help children in need. Lian donates $12.50 to the same organization. What was their total contribution?

Review your basic multiplication facts.

1 x 2 =	2 x 2 =	3 x 1 =	3 x 3 =	2 x 3 =
4 x 3 =	1 x 4 =	4 x 2 =	3 x 5 =	5 x 1 =
2 x 5 =	4 x 4 =	5 x 5 =	3 x 4 =	5 x 4 =

Lesson 10

Subtraction

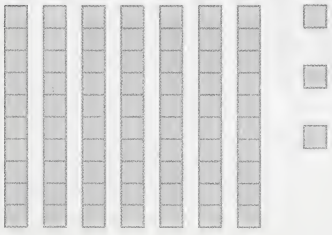
Exploration 1: Borrowing

Materials: Hundred squares from the back of this Unit in your Workbook, Pencil, Scissors

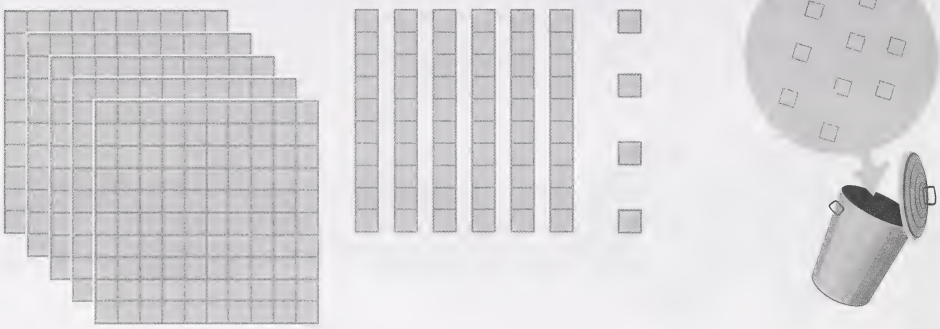
Let's use Hundred Squares to model 573 – 179.

1. Make a model for 573 using the Hundred Squares.

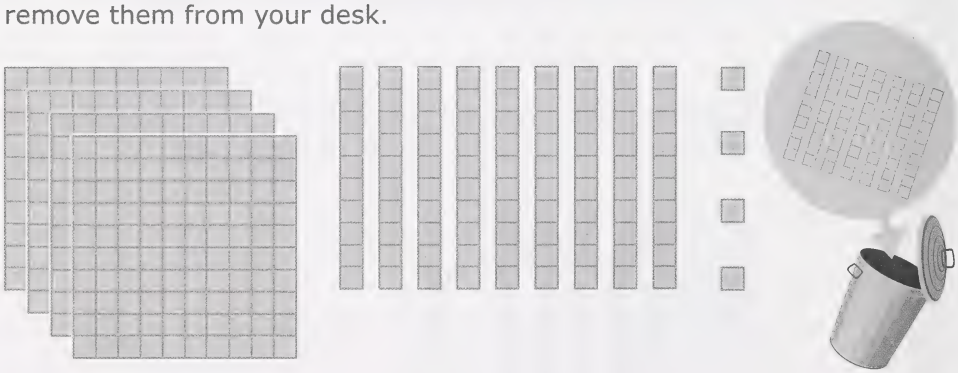
2. Cut the Hundred Square that has the 7 tens and the 3 ones from your model down to 7 longs of 10 and 3 ones.



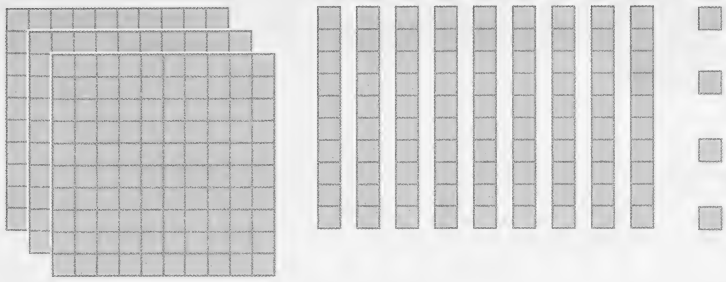
3. Take away 9 ones. You will need to cut one of your longs into 10 ones. Remove the 9 ones from your desk.

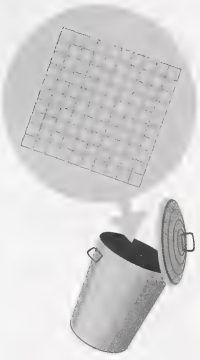


4. Now you need to take away 7 tens. You should only have 6 tens and 5 hundreds. Cut a hundred into 10 longs. Now take away 7 tens and remove them from your desk.



5. Finally you need to take away 1 hundred.





6. Complete this statement: 573 – 179 = _____

7. Use the same process to find the following.

   475 – 382 724 – 458 651 – 539

8. Reflection: Why do you think you should start by subtracting the ones rather than the hundreds?

Exploration 2: Take Me Out to the Ballgame!

Materials: Marker, Paper

Answer the following questions using the information on the chart. Use your paper to find the answers, and write the final answers here.

Baseball Card Collections	
Collector	Number of Cards
Zach	783
Lian	1 394
Cameron	567
Alyssa	1 210

1. How many more cards does Lian have than Zach?

2. Use front-end estimation to estimate about how many more cards Alyssa has than Cameron.

3. If Alyssa's goal is to collect 5 000 cards how many more does she need?

4. How many more cards does Lian need to collect to reach 2 000?

5. A Baseball Museum has a collection of 9 400 baseball cards. If all four kids added their cards together how many more cards does the museum have?

Let's Practice

For 1 - 15: Subtract. Estimate to check, writing the name of the strategy you used. Show your work.

1. 486
   - 234

2. 987
   - 237

3. 5 864
   - 3 251

4. 523 - 286

5. 1 738 - 948

6. 9 821 - 4 638

7. 986 - 349

8. 7 385 - 2 976

9. 3 931 - 2 698

10. 1 973 - 1 286

11. 6 864 - 4 892

12. 5 893 - 3 286

13. 7 892 - 5 294

14. 3 024 - 1 361

15. 608 - 340

For 16 – 20: Write a number sentence and solve.

16. Daksha had 214 paper clips. 178 are left. How many did he use?

17. Nina was in school 178 days last year. How many days was she not in school? (Remember, 1 year = 365 days).

For 18 - 20: Use the information in the table to answer the following questions. Write a number sentence and solve.

Spring Elementary	
Grade	# of Students
3	428
4	397
5	413

18. There are 227 boys in 3rd grade. How many girls are in 3rd grade?

19. How many fewer students are in 4th grade than in 5th grade?

20. How many more students are in 3rd grade than in 5th grade?

21. Reflection: Describe how to subtract by borrowing from the tens place. Use the example 124 – 32.

Mixed Review

1. List at least 2 places where fractions are used daily.

2. Divide the following rectangles into:

a. thirds b. fifths c. eighths d. fourths

Math 4 Unit 1

Lesson 11

Decimal Subtraction

Let's Explore

Exploration 1: Decimal Subtraction

Materials: Base 10 Blocks or Hundred Squares from the back of the Unit in your Workbook, Pencil, Paper

Find the difference between each pair of decimals. Use your blocks to model the first number. Break down ones and tenths as needed to take away the second decimal. Draw a picture of your answer and write the difference in standard form.

1. 3.49 – 2.34

   a. Draw the model of your answer.

   b. Write the answer:

c. What models did you have to break down?

2. 1.28 – 0.34

a. Draw the model of your answer.

b. Write the answer:

c. What models did you have to break down?

3. 5.27 – 4.39

   a. Draw the model of your answer.

   b. Write the answer:

   c. What models did you have to break down?

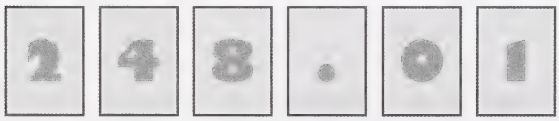
4. Create your own subtraction problem. It should require you to break down at least one value.

5. Refection: When you look at a problem can you tell if you will have to break down a value? How?

Exploration 2: Estimating and Finding Differences

Materials: Index cards with digits 0 – 9 written on them, 2 index cards with decimal points drawn on them, Pencil

1: Arrange your cards so that you have two decimals numbers. Place the decimal card after the third number. Example of one number:



2: Write down your two numbers. Estimate the difference between the two numbers. Show your work.

3: Find the actual difference of the two numbers. Show your work.

4: Now move the decimal-point cards one digit to the right.

5: Write down your two numbers. Estimate the difference between the two numbers. Show your work.

6: Find the actual difference of the two numbers. Show your work.

7. Reflection: How does the difference change when the decimals are moved to the right?

Let's Practice

For 1 - 21: Subtract. Add to check your solutions.

1. 15.67 − 12.34

2. 8.83 − 2.37

3. 3.07 − 1.25

4. 50.18 − 34.48

5. 31.40 − 15.24

6. 6.71 − 4.38

7. 17.03
-10.34

8. 123.7
-98.4

9. 8.92
-5.68

10. 72.01
-14.36

11. 45.8
-38.9

12. 42.00
-12.25

13. 102.7 – 32.4

14. 72.09 – 45

15. 21.37 – 19.08

16. 58.72 – 39.41

17. 40.32 – 28.44

18. 12.04 - 8.56

19. 87.23 – 54.19

20. 3.97 – 1.28

21. 89.31 – 79.8

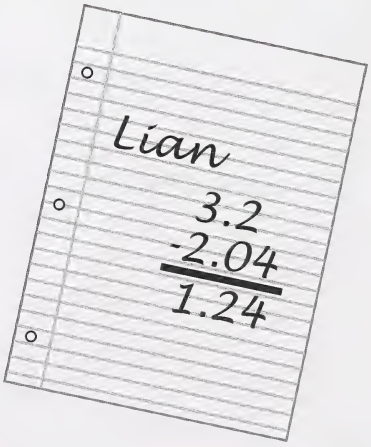
For 22 - 24: Estimate the solution by front-end estimation or compatible numbers. Show the number sentence you used.

22. 15.93 – 4.27 _____

23. 89.74 – 14.82 _____

24. 67.43 – 10.08 _____

25. Reflction: What is wrong with Lian's work?



Mixed Review

Create a picture model for each of the following fractions:

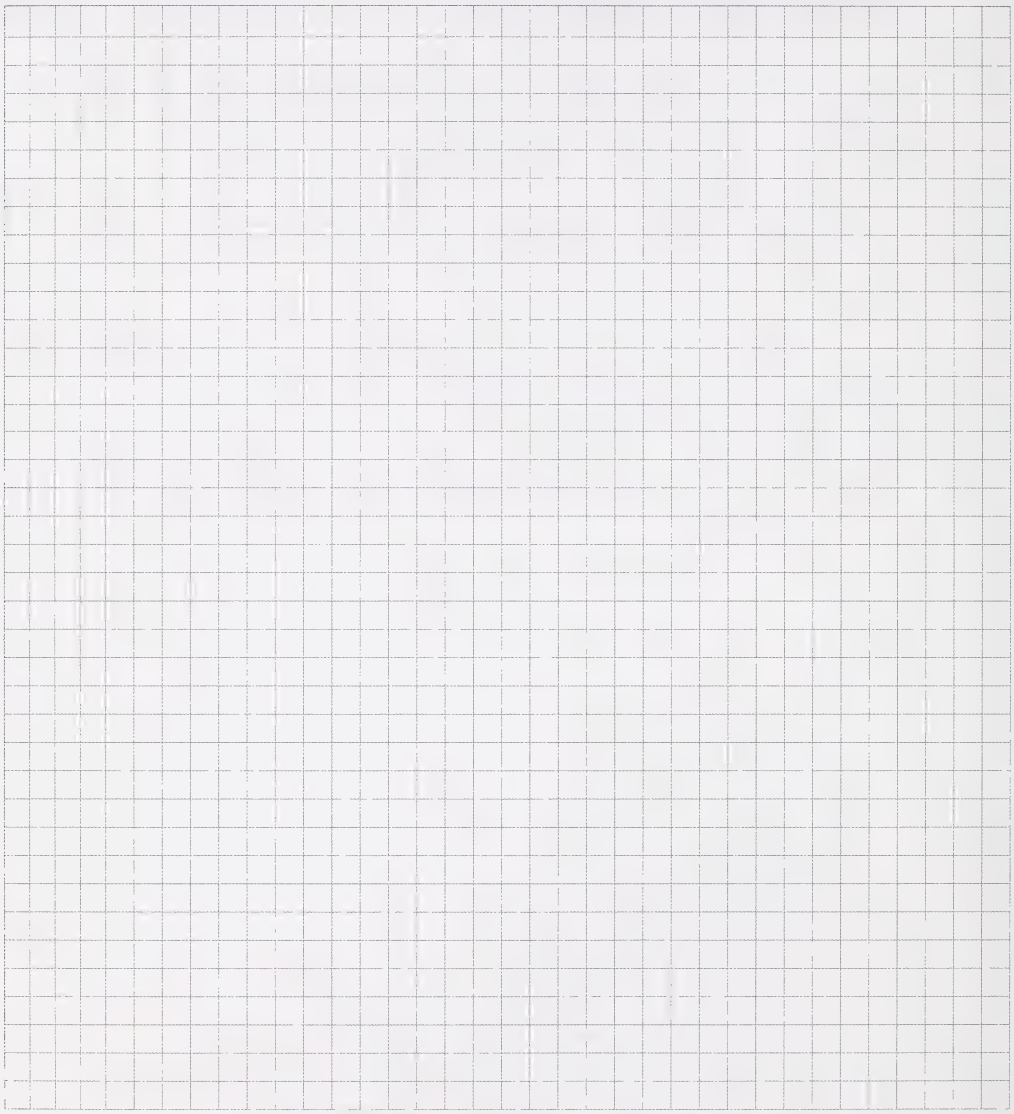
1. $\frac{3}{4}$

2. $\frac{6}{8}$

3. $\frac{5}{7}$

4. $\frac{2}{5}$

5. $\frac{2}{3}$



Lesson 12

Multiplication

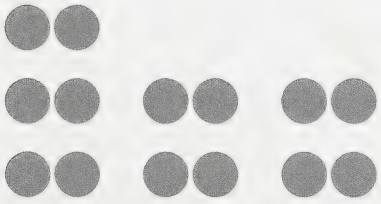
Exploration 1: Multiplying 6s to 9s

Materials: Counters such as beans or small candies, Pencil, Blank multiplication chart from the back of this Unit in your Workbook

You have already learned the multiplication facts from 1s to 5s.

1. Fill in all of these facts on your multiplication chart. If you do not remember them, use the process for finding 6s to 9s.

   Now you need to find the answers to multiplication facts from 6s to 9s. Use counters to model each fact. Here is a model of 2 x 7:



   Arrange your counters in 7 groups of 2 to model the problem. Since there are 14 counters in the arrangement the answer is 14.

2. After you make each multiplication fact with your counters, fill in the multiplication chart.
3. What do you notice about 2 x 7 and 7 x 2?

4. How would you describe the answer to 1 x any number?

5. Do you notice any other patterns in the multiplication chart?

Exploration 2: Pattern of the 9s

Materials: A red and a blue pencil crayon

There is a pattern to the 9's facts. Look at the 9s in the Multiplication Table:

x	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

2. Complete the table using two colours. Write the tens digit of your answer in blue and the ones digit of your answer in red.

Fact	2 x 9	3 x 9	4 x 9	5 x 9	6 x 9	7 x 9	8 x 9
Product							

3. Look closely at the relationship between the facts and the answer.

4. Do you notice any pattern to the relationship?

5. Look at the tens digit. How does it relate to the number multiplied by 9?

6. What do you get when you add the tens digit and the ones digit?

7. Describe the pattern.

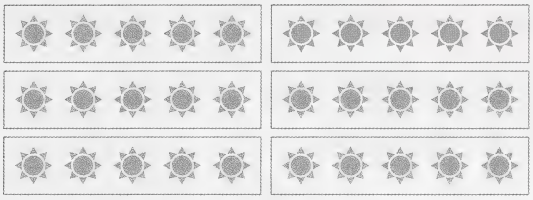
For 1 - 4: Write an addition sentence and a multiplication sentence for each model.

1.

Addition sentence: _____

Multiplication sentence: _____

2.



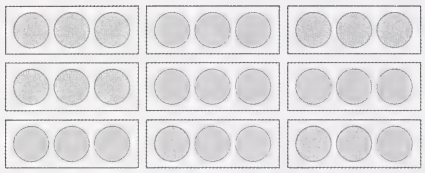
Addition sentence: _____

Multiplication sentence: _____

3.

Addition sentence: _____

Multiplication sentence: _____

4. 

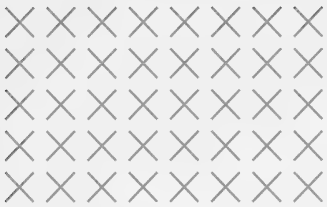
Addition sentence: _____

Multiplication sentence: _____

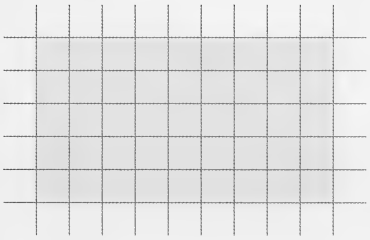
For 5 - 8: Write a multiplication sentence for the array shown.

5.

Multiplication sentence: _____

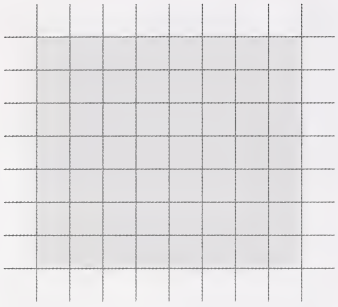
6. 

Multiplication sentence: _____

7. 

Multiplication sentence: _____

8.



Multiplication sentence: _____

For 9 - 32: Practice your basic facts. Multiply.

9. 7 x 8	10. 6 x 7	11. 4 x 8	12. 8 x 8
13. 7 x 9	14. 4 x 7	15. 5 x 3	16. 8 x 9
17. 4 x 9	18. 5 x 9	19. 5 x 7	20. 4 x 6
21. 9 x 9	22. 3 x 7	23. 8 x 3	24. 6 x 6
25. 7 x 7	26. 6 x 8	27. 3 x 6	28. 3 x 9

29. 7 x 5 30. 5 x 6 31. 6 x 9 32. 4 x 5

33. Reflection: Describe the pattern that you find in the 6 facts. How does that pattern help you to find answers?

Mixed Review

Complete the pattern.

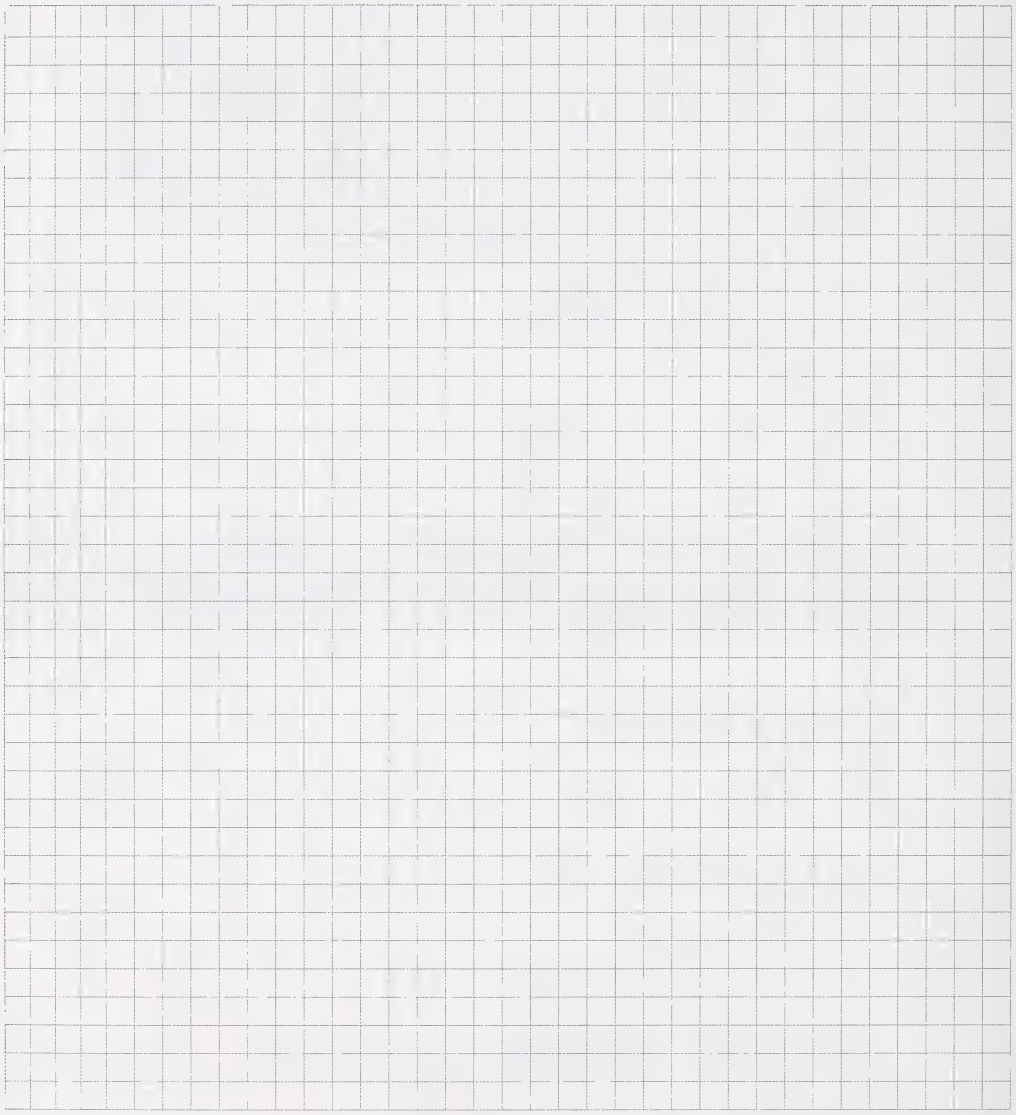
1. 12, 14, _____, 18, 20, 22

2. 54, 50, 46, _____, 38, 34

3. 75, 80, 85, 90, _____, _____,

4. 3, 9, _____, 21, 27, 33

5. 22, 18, _____, 10, 6, 2



Math 4 Unit 1

Lesson 13

Multiplying 2 or 3 Digits by 1 Digit

Exploration 1: Multiply with Base 10 Blocks

Materials: Base 10 Blocks or Base 10 Models, Pencil, Paper

Gather blocks to model the problem. Answer the questions that follow.

1. 162 x 4

   a. How many unit cubes do you have?

   b. What is the number of longs + unit cubes that represent this number?

   c. How many longs do you have now?

d. What is the number of flats + longs that represent this number?

e. What is the product of 162 x 4?

2. 87 x 6

a. How many unit cubes do you have?

b. What is the number of longs + unit cubes that represent this number?

c. How many longs do you have now?

d. What is the number of flats + longs that represent this number?

e. What is the product of 87 x 6?

3. 248 x 5

a. How many unit cubes do you have?

b. What is the number of longs + unit cubes that represent this number?

c. How many longs do you have now?

d. What is the number of flats + longs that represent this number?

e. What is the product of 248 x 5?

Exploration 2: 10s Facts

Materials: Pencil, Paper

1. Use the property of 0 and the property of 1 to find the 10s facts. Complete the table.

Tens Facts	10 x 2	10 x 3	10 x 4	10 x 5	10 x 6	10 x 7	10 x 8	10 x 9
Product								

2. What do you notice about the pattern of the 10s facts?

3. How could you use this pattern to find 10 x 12? 10 x 15? 10 x 38?

4. Use the property of 0 and the property of 1 to find some of the 100s facts. Complete the table.

100s Facts	100 x 2	100 x 3	100 x 4	100 x 5	100 x 6	100 x 7	100 x 8	100 x 9
Product								

You are not supposed to memorize the 100s. You should be able to multiply by 100 easily. This will help you with large problems later in math.

5. Reflect: How is the 100s pattern similar to the 10s?

6. Reflect: How is it different than the 10s pattern?

7. Extend your thinking: How can you find 3 x 1 000 using the patterns you explored for 10s and 100s?

8. Reflect: How can you find 6 x 10 000 using the patterns you explored for 10s and 100s?

9. Write your own multiplication problem using these patterns and solve it.

10. Reflect: How did you get your answer?

1. Multiply 32 x 8 using distributive property.

2. Multiply 85 x 6 using carrying.

3. Complete: 10 x 8 = _____ 100 x 8 = _____ 1 000 x 8 = _____

For 4 – 27: Multiply. Check your answer by estimating.

4. 328
x 2

5. 457
x 6

6. 88
x 5

7. 213
x 8

8. 546
x 3

9. 619
x 9

10. 504
x 4

11. 75
x 7

12. 32 x 5

13. 70 x 8

14. 45 x 4

15. 67 x 9

16. 80 x 9

17. 72 x 5

18. 110 x 8

19. 87 x 3

20. 124 x 3

21. 418 x 2

22. 183 x 7

23. 520 x 6

24. 115 x 8

25. 612 x 3

26. 300 x 8

27. 312 x 9

28. Reflection: Daksha says that it is easier to multiply 500 x 8 than 518 x 8. Do you think the same is true? Explain your reasoning.

Mixed Review

Solve the equation.

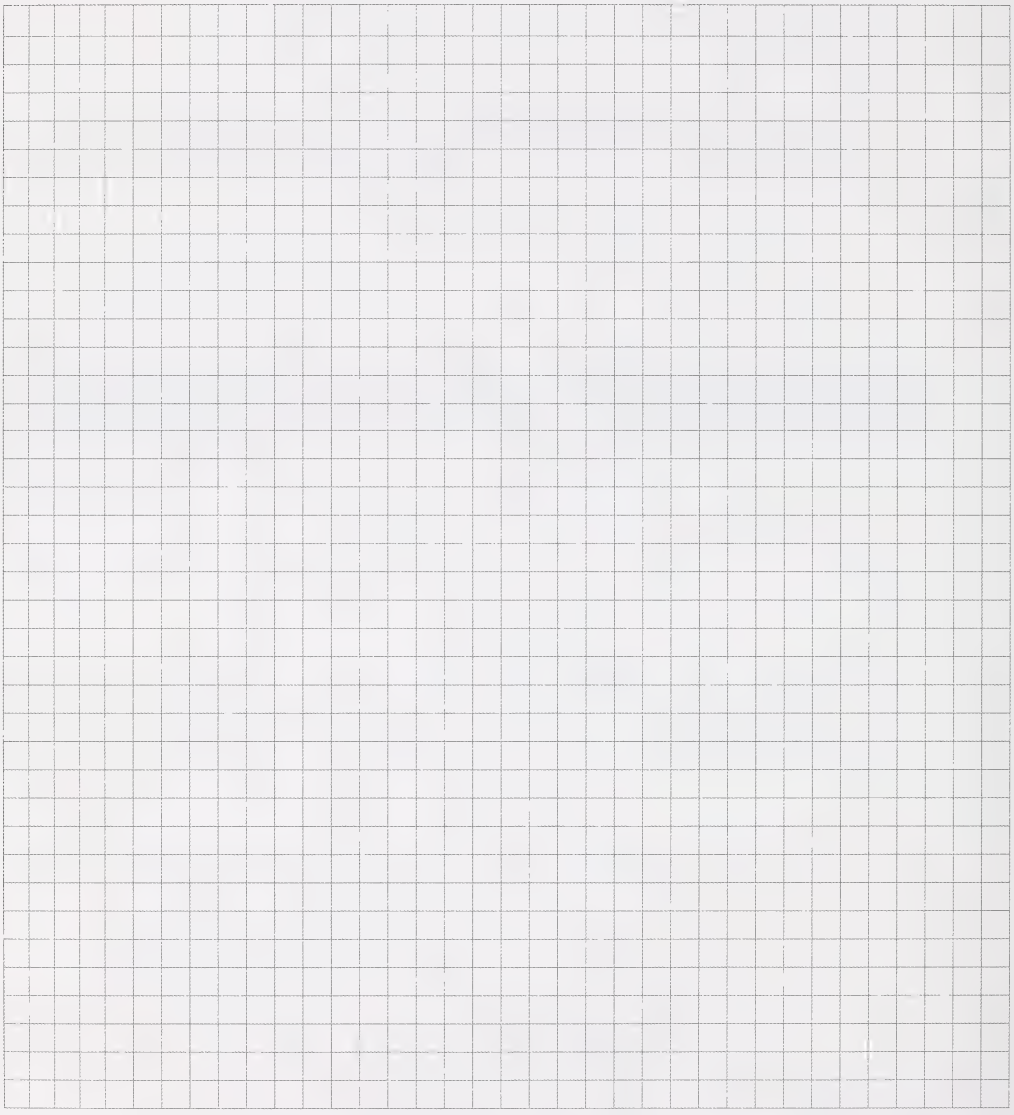
1. 3 + ____ = 9

2. ____ + 10 = 14

3. 12 – ____ = 7

4. 10 – ____ = 6

5. ____ + 8 = 14



Lesson 14

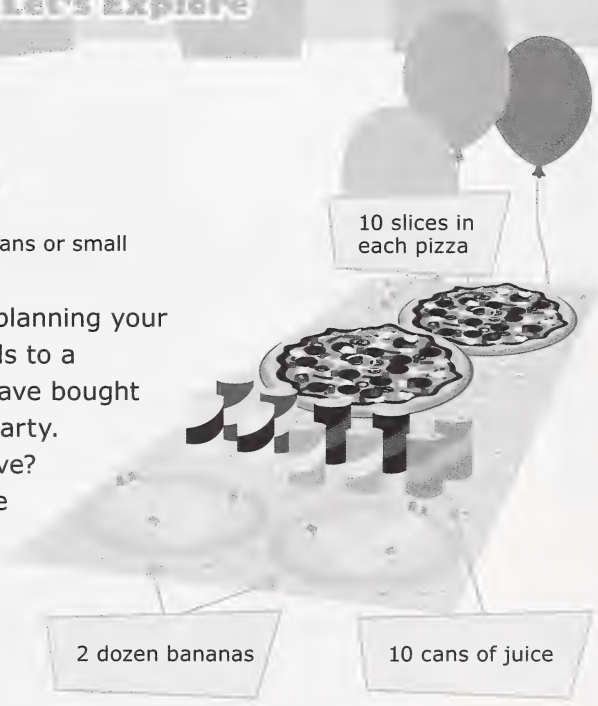
Division

Let's Explore

Exploration 1: Party Time

Materials: 50 Counters such as beans or small candies, Pencil, Paper

It's your birthday and you are planning your party. You have invited 4 friends to a sleepover at your house. You have bought everything you need for your party. How much can each person have? (Remember: there are 5 people you and 4 friends.)



1: Use your counters to represent the slices of pizza. Divide the pizzas evenly among all 5 of you.

2: Write the division problem and solve it.

3: Repeat instructions 1 and 2 for the juice and bananas.

4: Do you think that it is enough food and drinks for your party?

5. Reflection: If not, how much do you think you should buy? How much would each person get with the new amount of food? Show your work.

Let's Practice

For 1 - 25: Divide. Multiply to check your solutions.

1. 48 ÷ 6	2. 27 ÷ 3	3. 24 ÷ 8	4. 14 ÷ 7	5. 35 ÷ 5
6. 32 ÷ 4	7. 63 ÷ 9	8. 45 ÷ 9	9. 24 ÷ 4	10. 18 ÷ 3
11. 18 ÷ 2	12. 36 ÷ 6	13. 28 ÷ 7	14. 15 ÷ 3	15. 25 ÷ 5
16. 21 ÷ 7	17. 16 ÷ 8	18. 42 ÷ 6	19. 30 ÷ 6	20. 56 ÷ 8
21. 49 ÷ 7	22. 72 ÷ 9	23. 54 ÷ 6	24. 20 ÷ 4	25. 16 ÷ 2

For 26 - 37: Divide using long division. Multiply to check your solutions.

26. $3\overline{)54}$

27. $5\overline{)95}$

28. $9\overline{)99}$

29. $6\overline{)84}$

30. $5\overline{)80}$

31. $7\overline{)98}$

32. $8\overline{)96}$

33. $4\overline{)84}$

34. $4\overline{)60}$

35. $2\overline{)72}$

36. $6\overline{)90}$

37. $3\overline{)84}$

For 38 - 40: Estimate the following quotients.

38. $4\overline{)72}$

39. $7\overline{)84}$

40. $3\overline{)72}$

41. What will happen if you have to divide 12 by 5?

Mixed Review

Solve the following problems:

1. 21 + 37

2. 49 + 68

3. 13 + 78

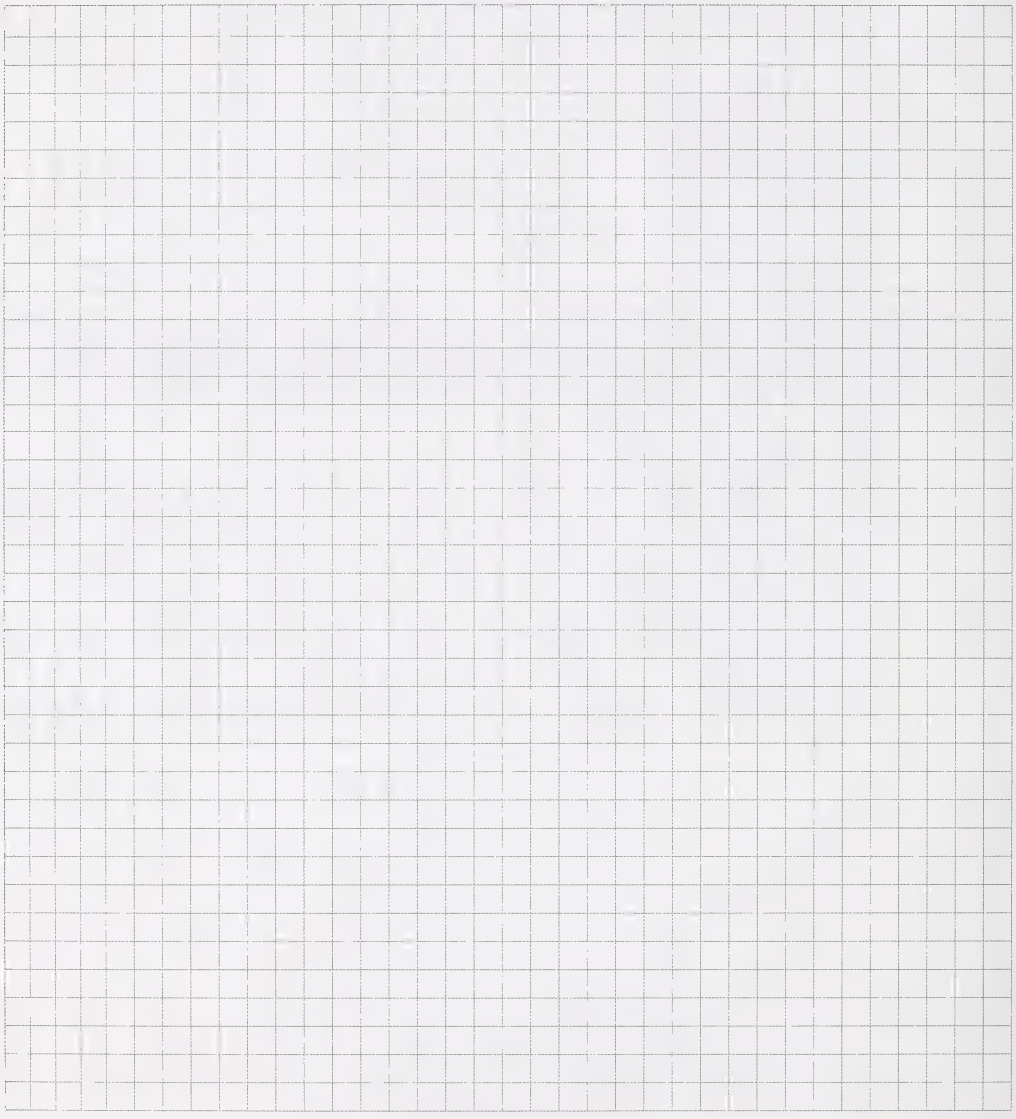
4. 55 + 40

5. 18 + 14

Fraction Strips

Cut out these Fraction Strips to help you with comparing fractions. Store them in a safe place because you will use them more than once.

One Whole	1										
One-Half	$\frac{1}{2}$										
One-Third	$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$				
One-Fourth	$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$	
One-Fifth	$\frac{1}{5}$			$\frac{1}{5}$			$\frac{1}{5}$			$\frac{1}{5}$	
One-Sixth	$\frac{1}{6}$			$\frac{1}{6}$			$\frac{1}{6}$			$\frac{1}{6}$	
One-Eighth	$\frac{1}{8}$			$\frac{1}{8}$			$\frac{1}{8}$			$\frac{1}{8}$	
One-Ninth	$\frac{1}{9}$			$\frac{1}{9}$			$\frac{1}{9}$			$\frac{1}{9}$	
One-Tenth	$\frac{1}{10}$			$\frac{1}{10}$			$\frac{1}{10}$			$\frac{1}{10}$	
One-Twelfth	$\frac{1}{12}$			$\frac{1}{12}$			$\frac{1}{12}$			$\frac{1}{12}$	



Place Value Charts

Write in these charts with pencil, as you may need to use them more than once.

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Place Value Tables

Write in these charts with pencil, as you may need to use them more than once.

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Ten Thousands	Thousands	Hundreds	Tens	Ones

Decimal Place Value Charts

Write in these charts with pencil, as you may need to use them more than once.

Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

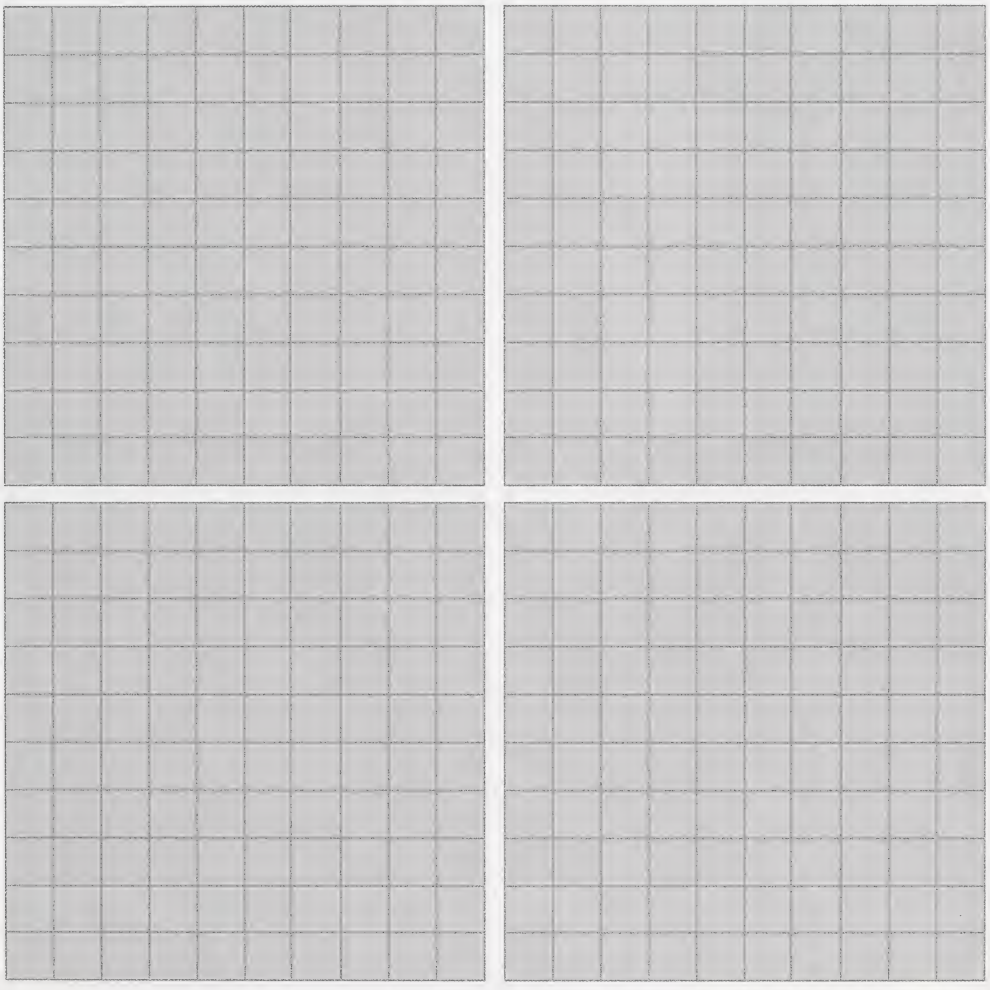
Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

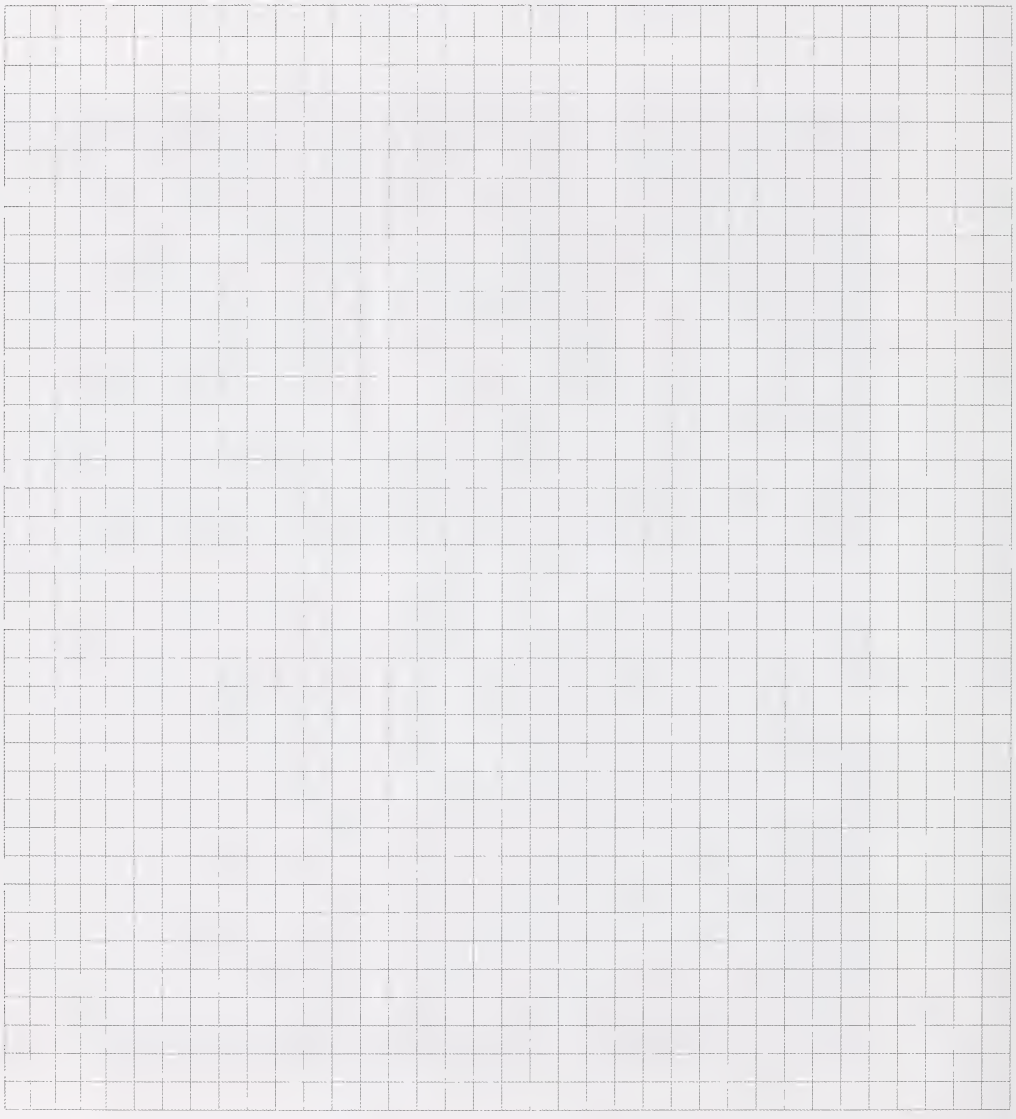
Place	Hundreds	Tens	Ones	.	Tenths	Hundredths
Value						

Base 10 Models

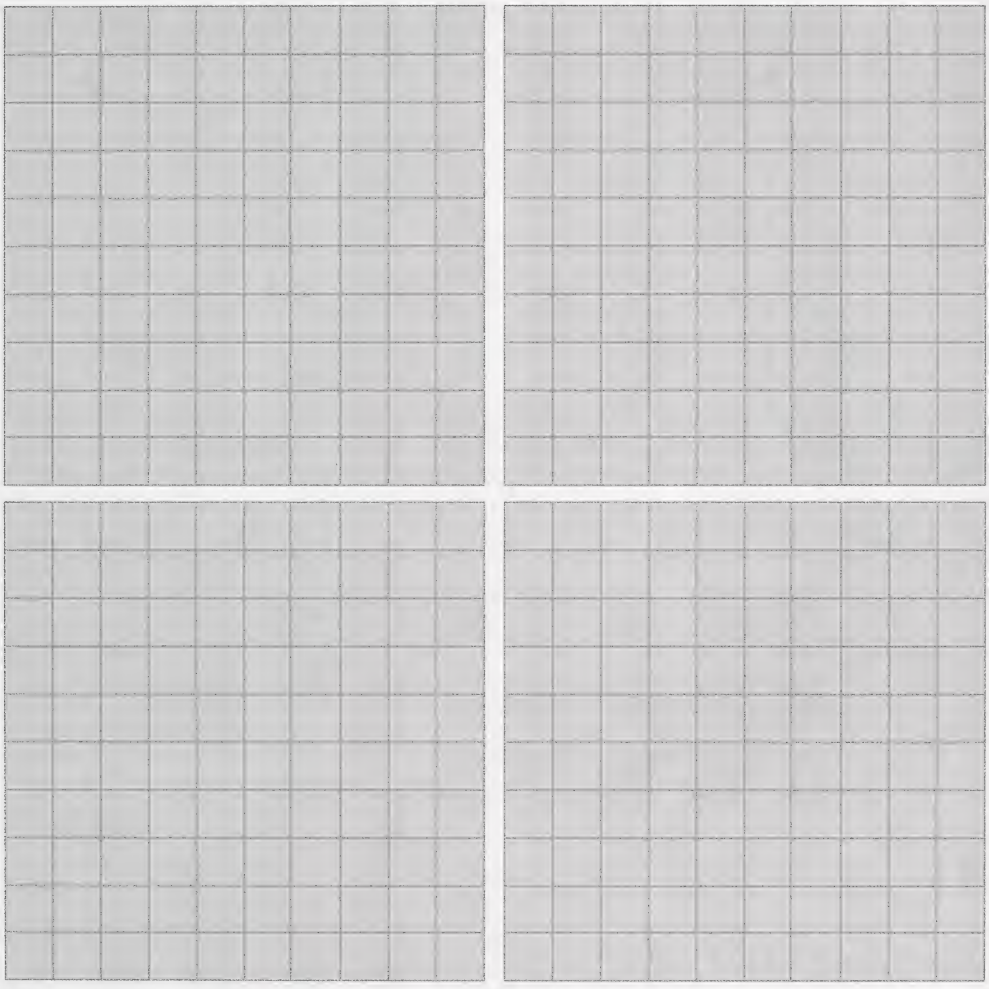
Cut these out to help you model numbers and decimals.

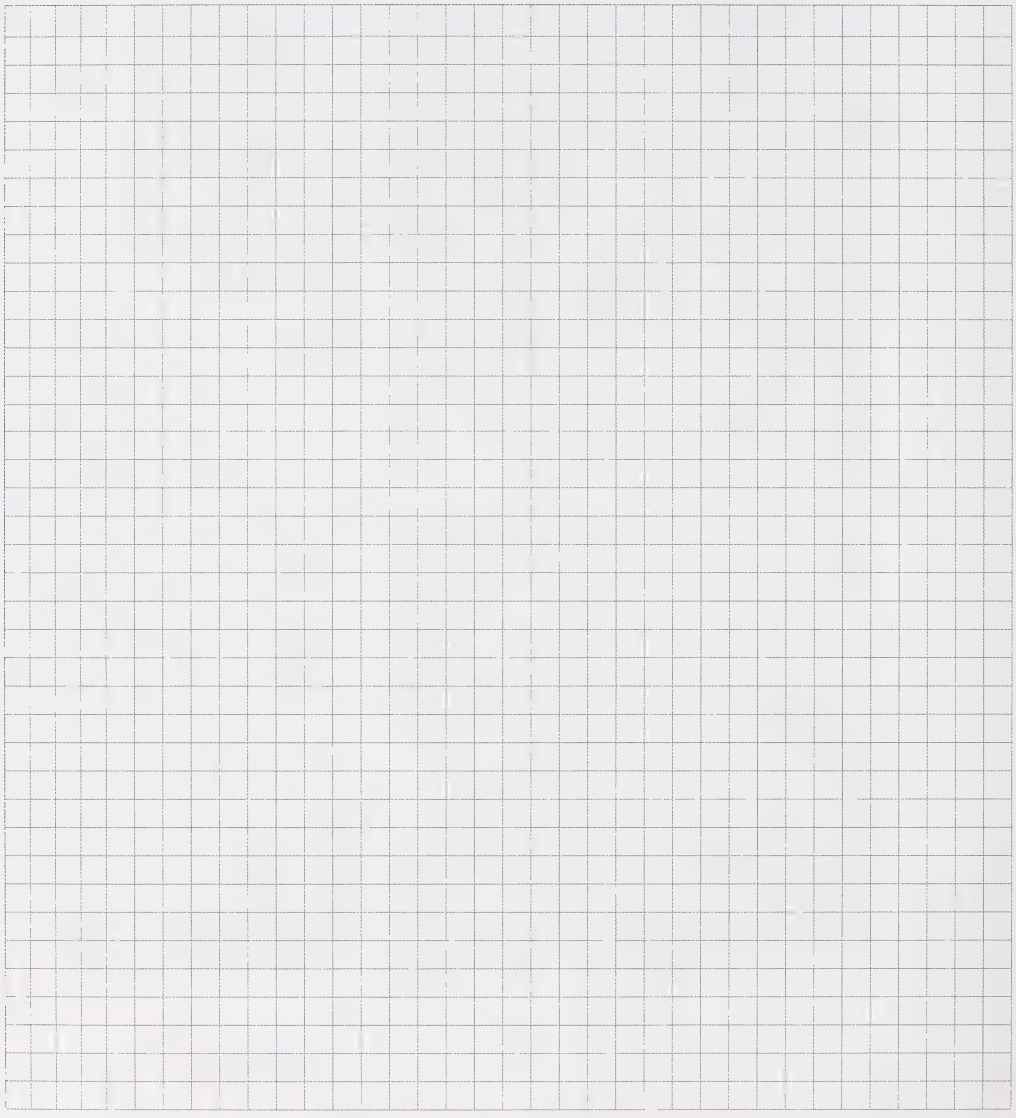
Flats



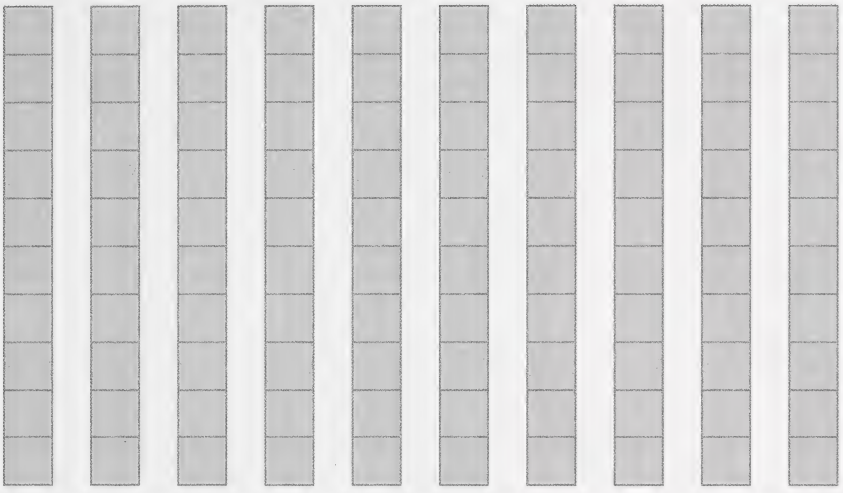


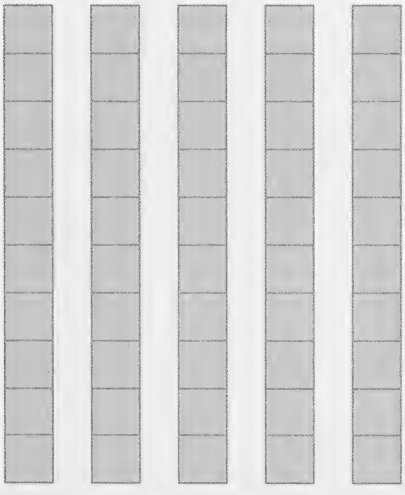
Flats



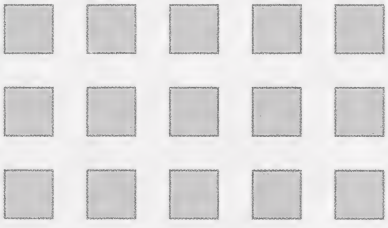


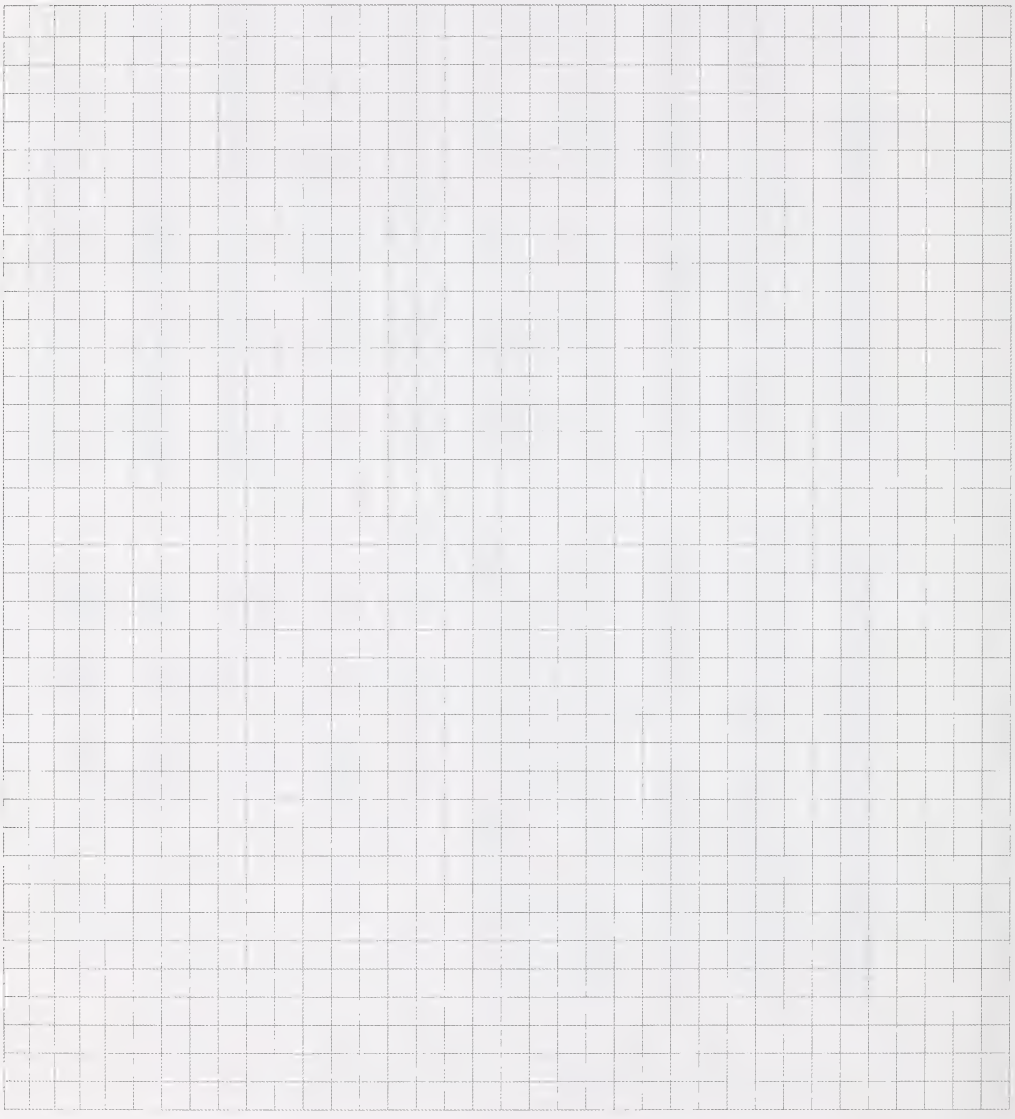
Longs



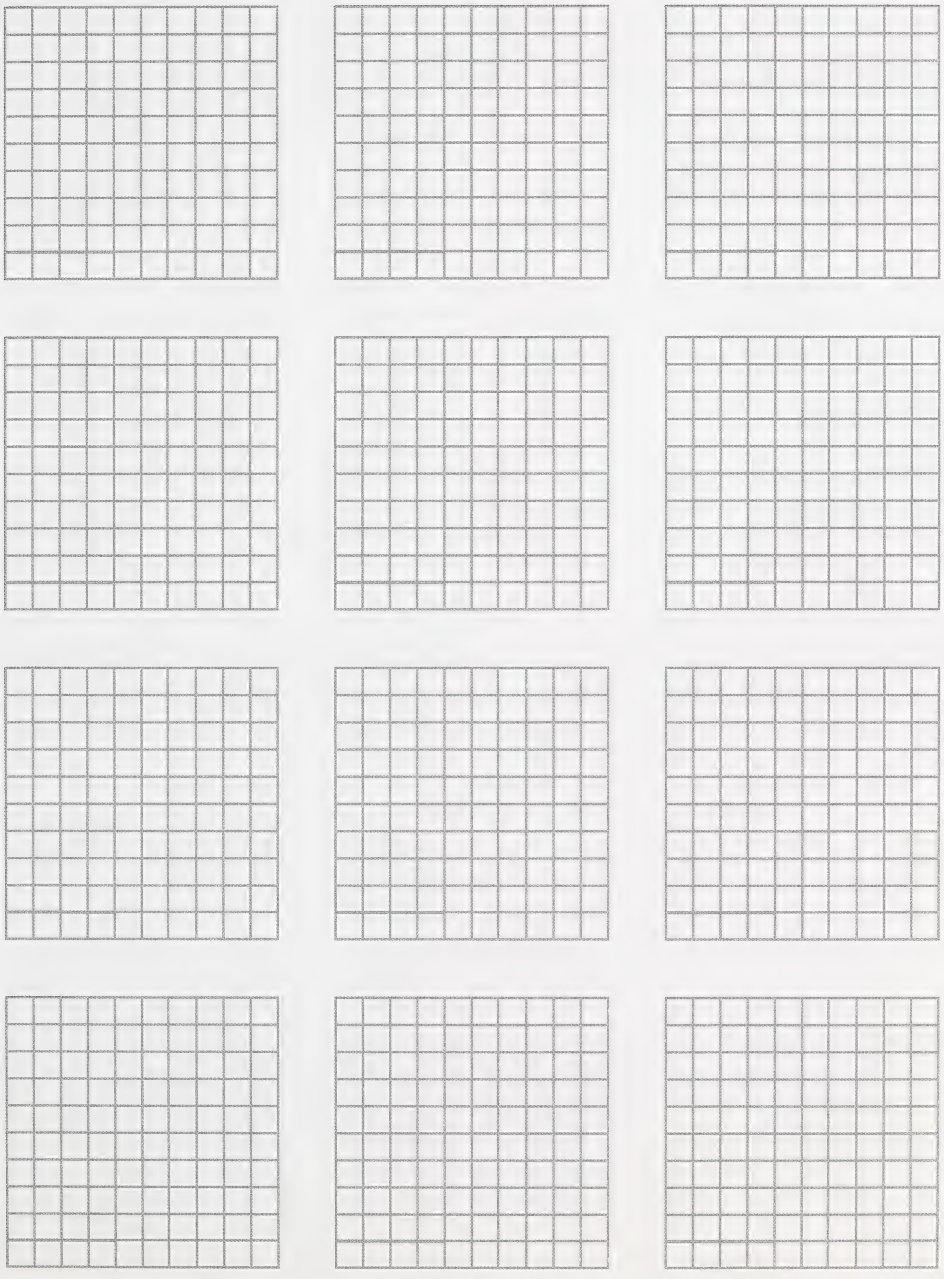


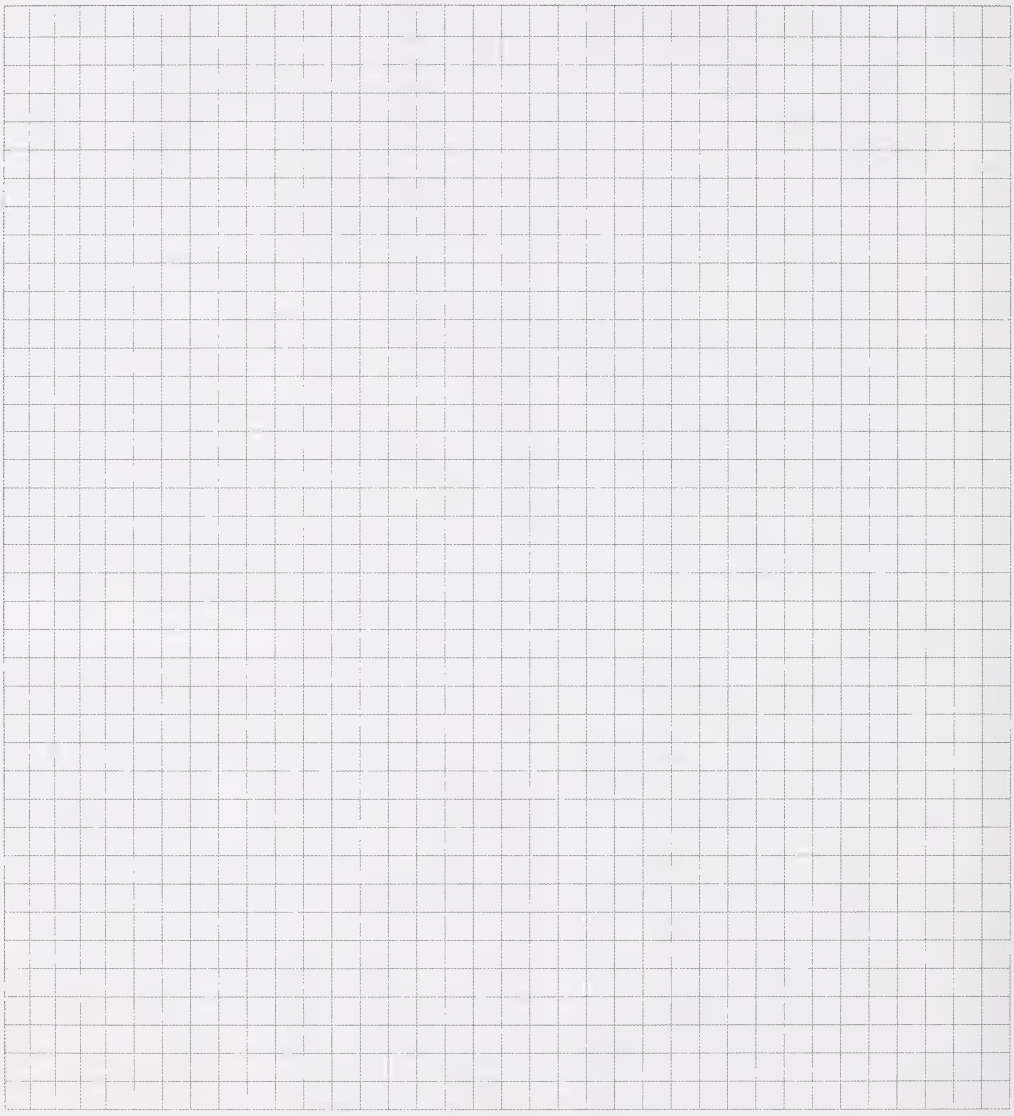
Units

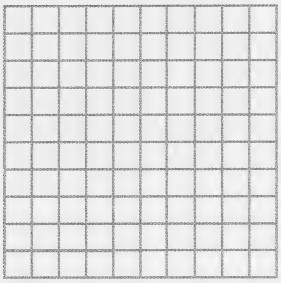
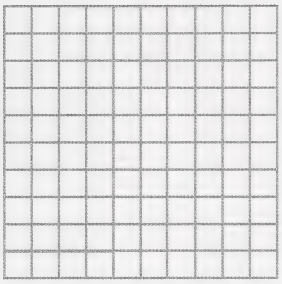
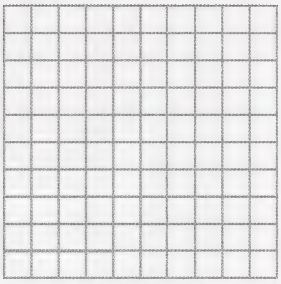
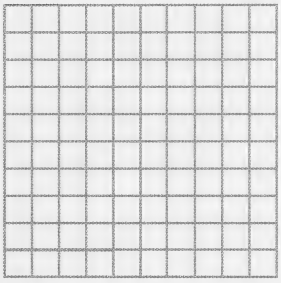
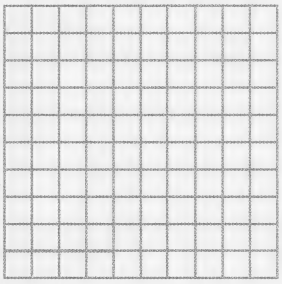
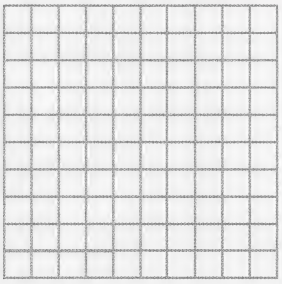
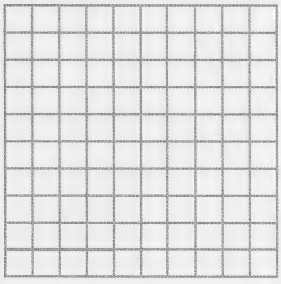
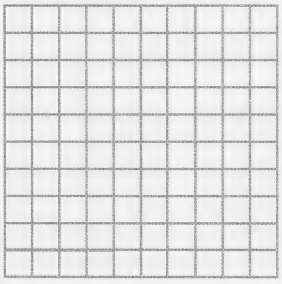
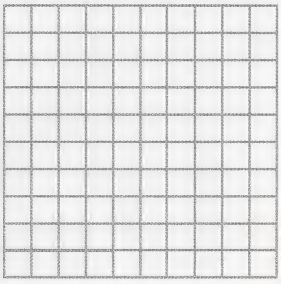
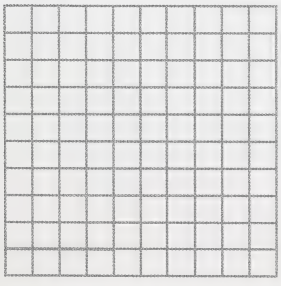
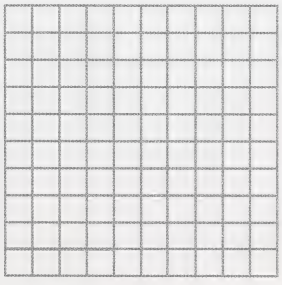
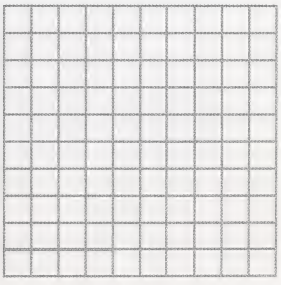


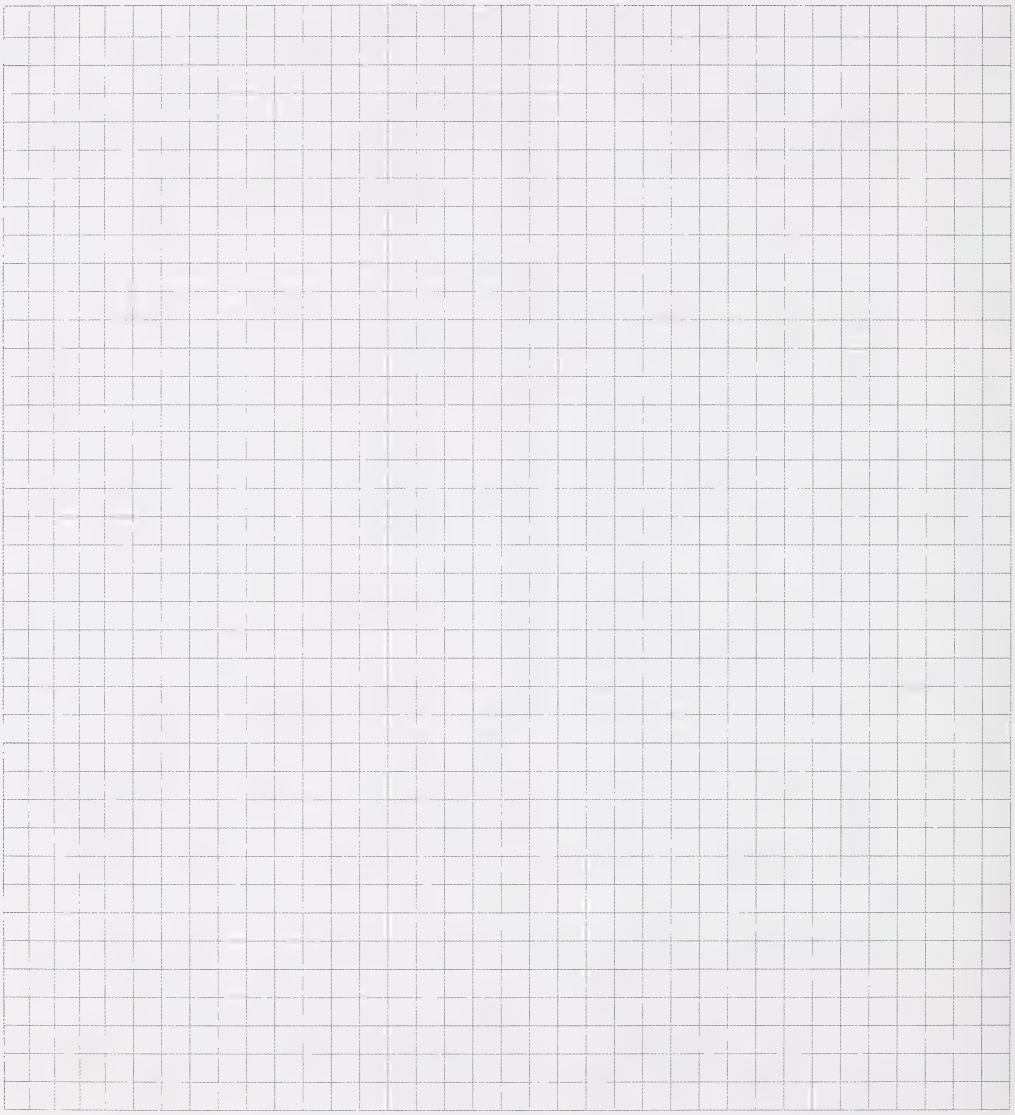


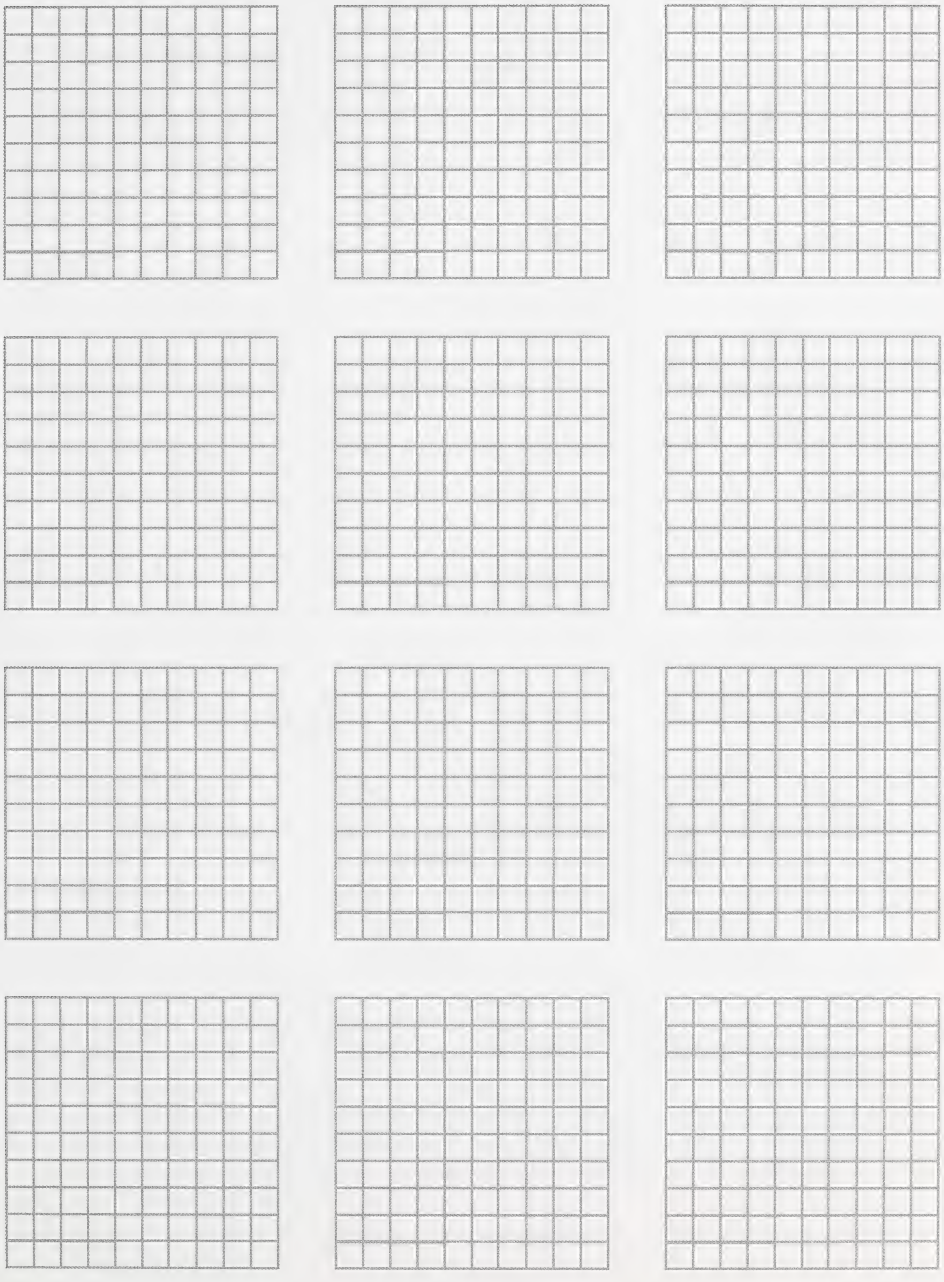
Hundred Squares

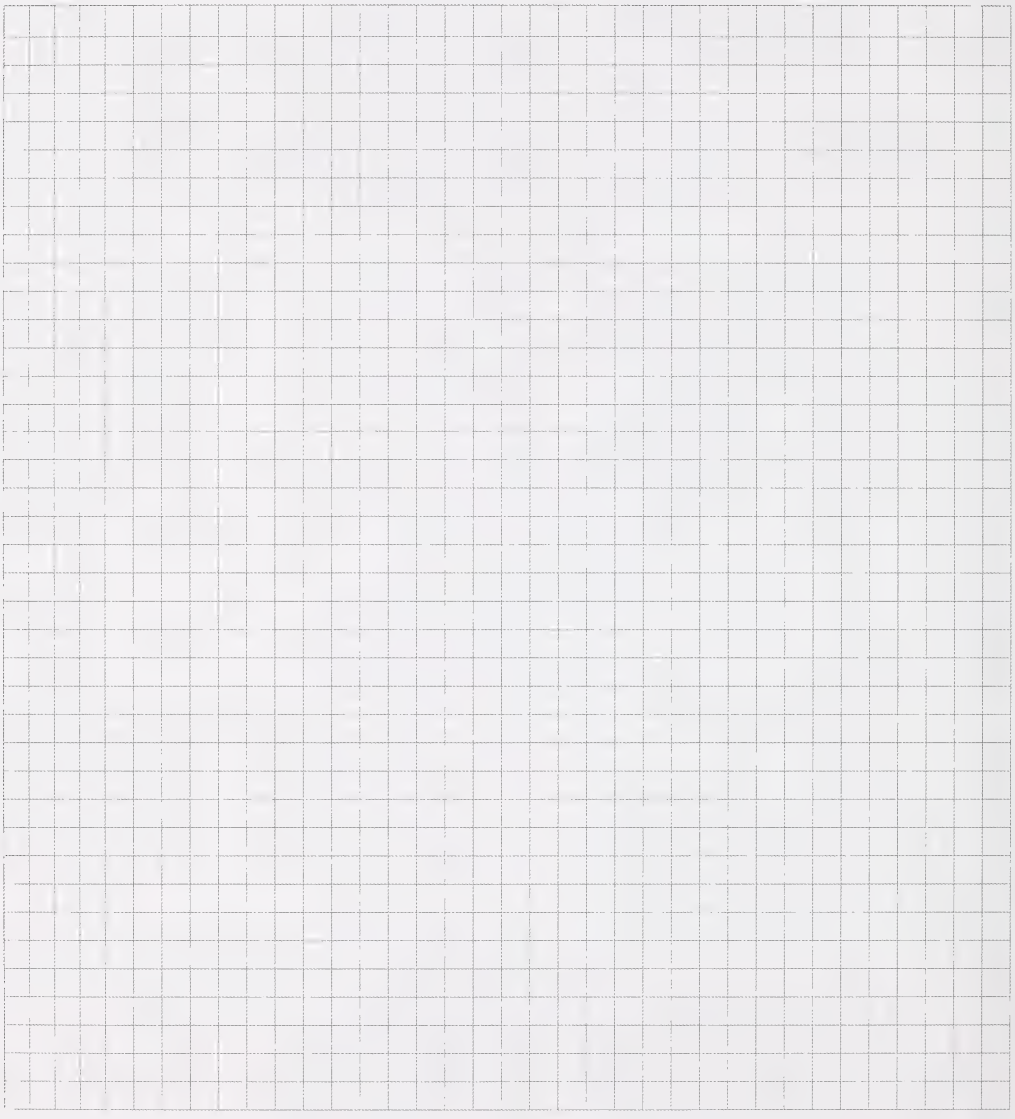


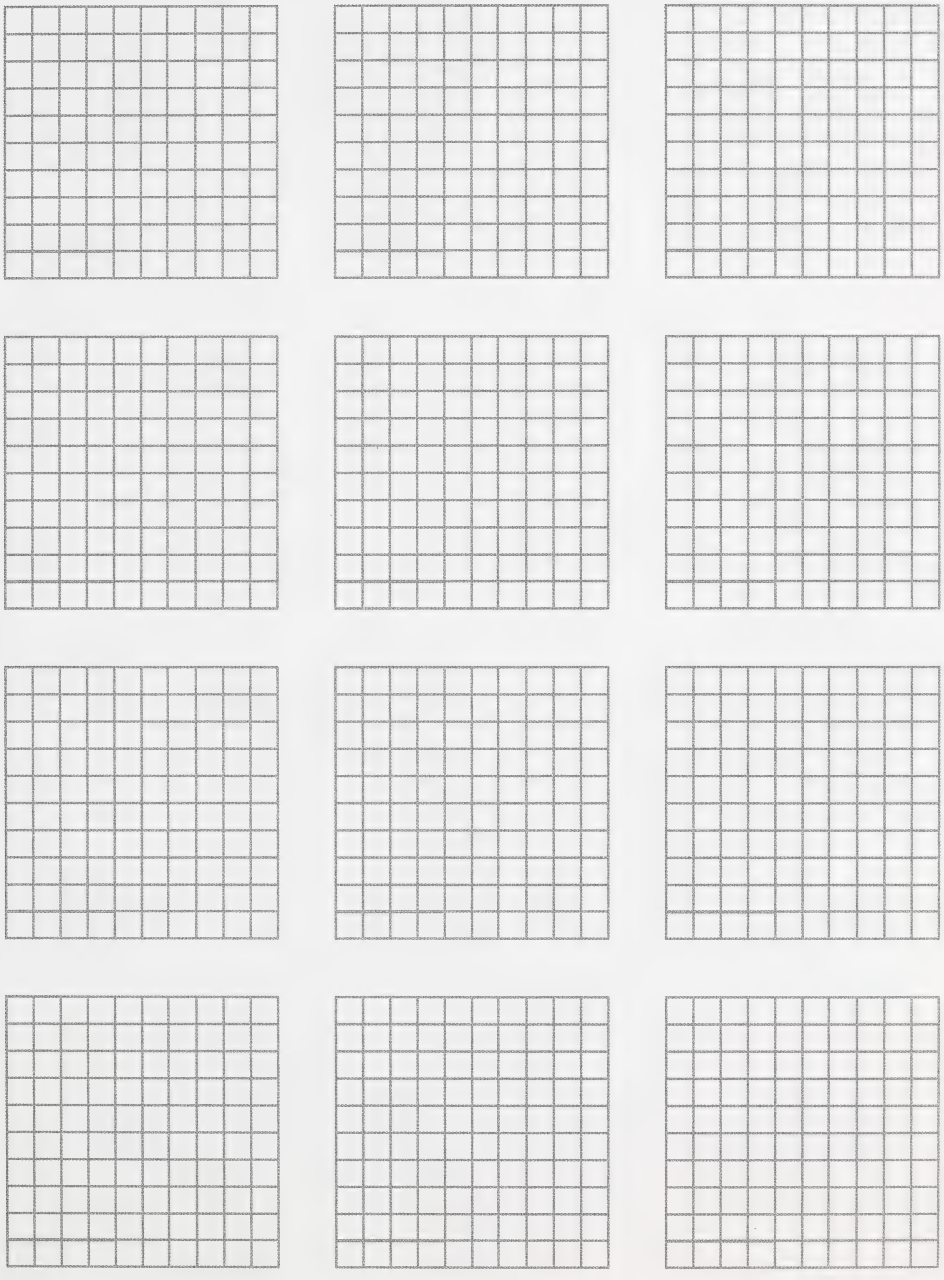


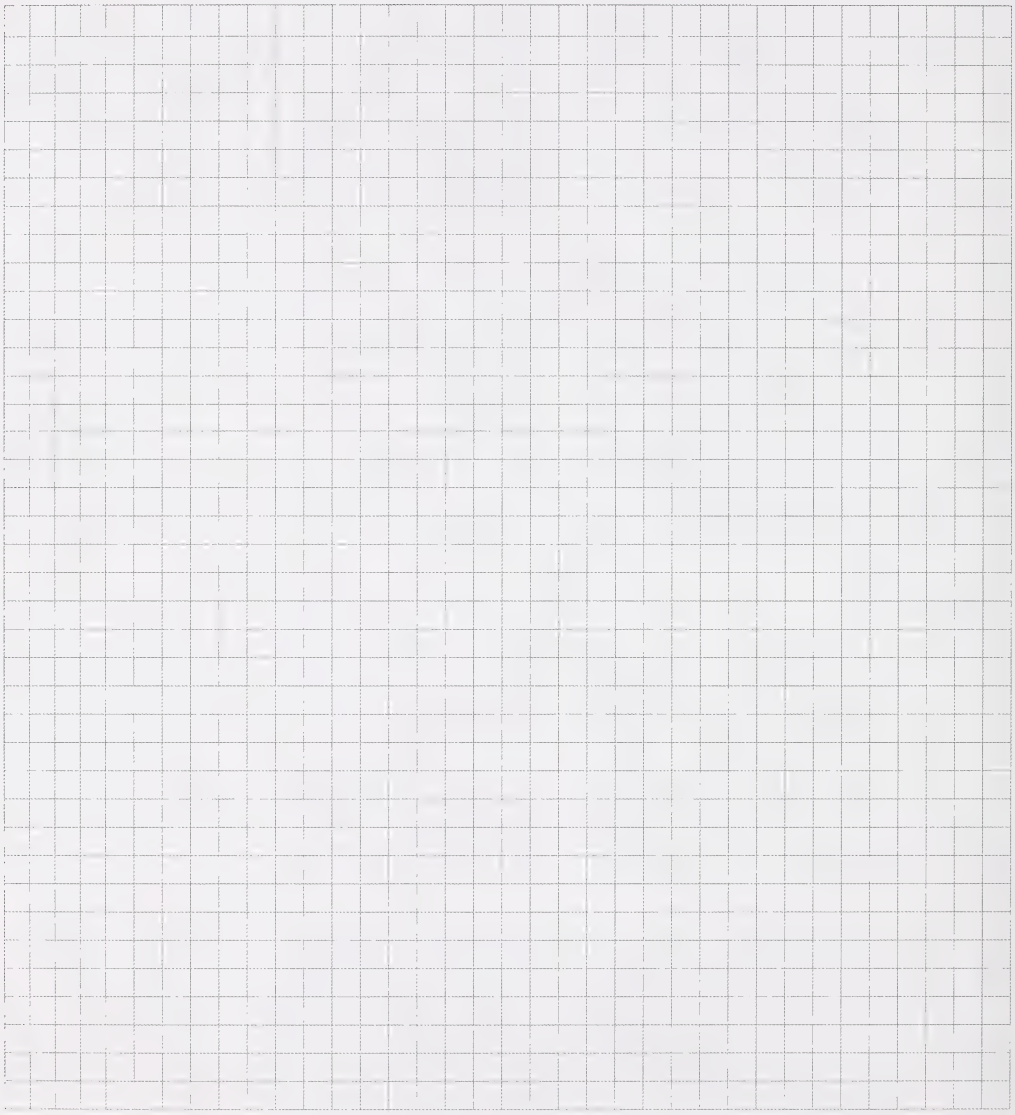













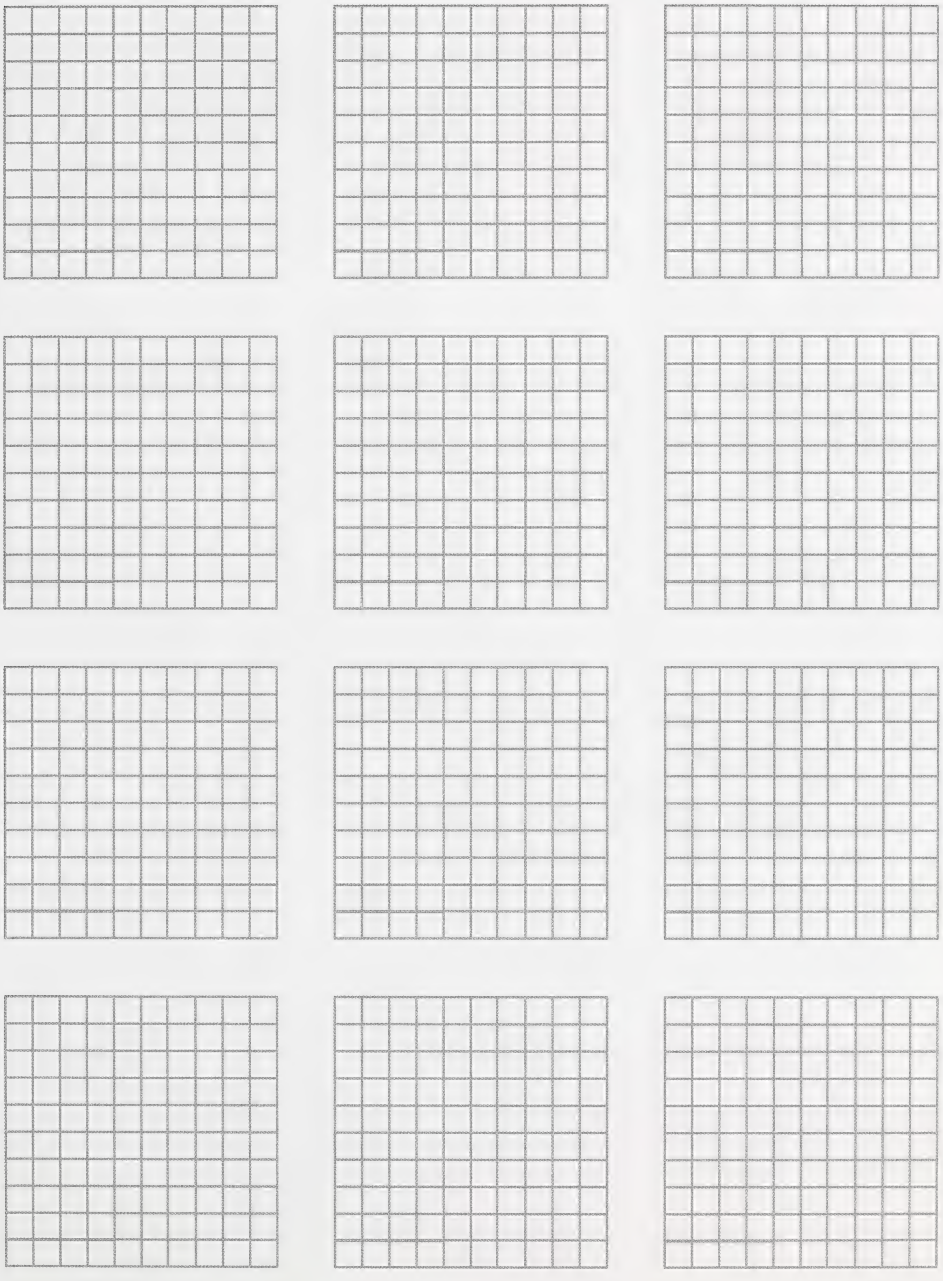


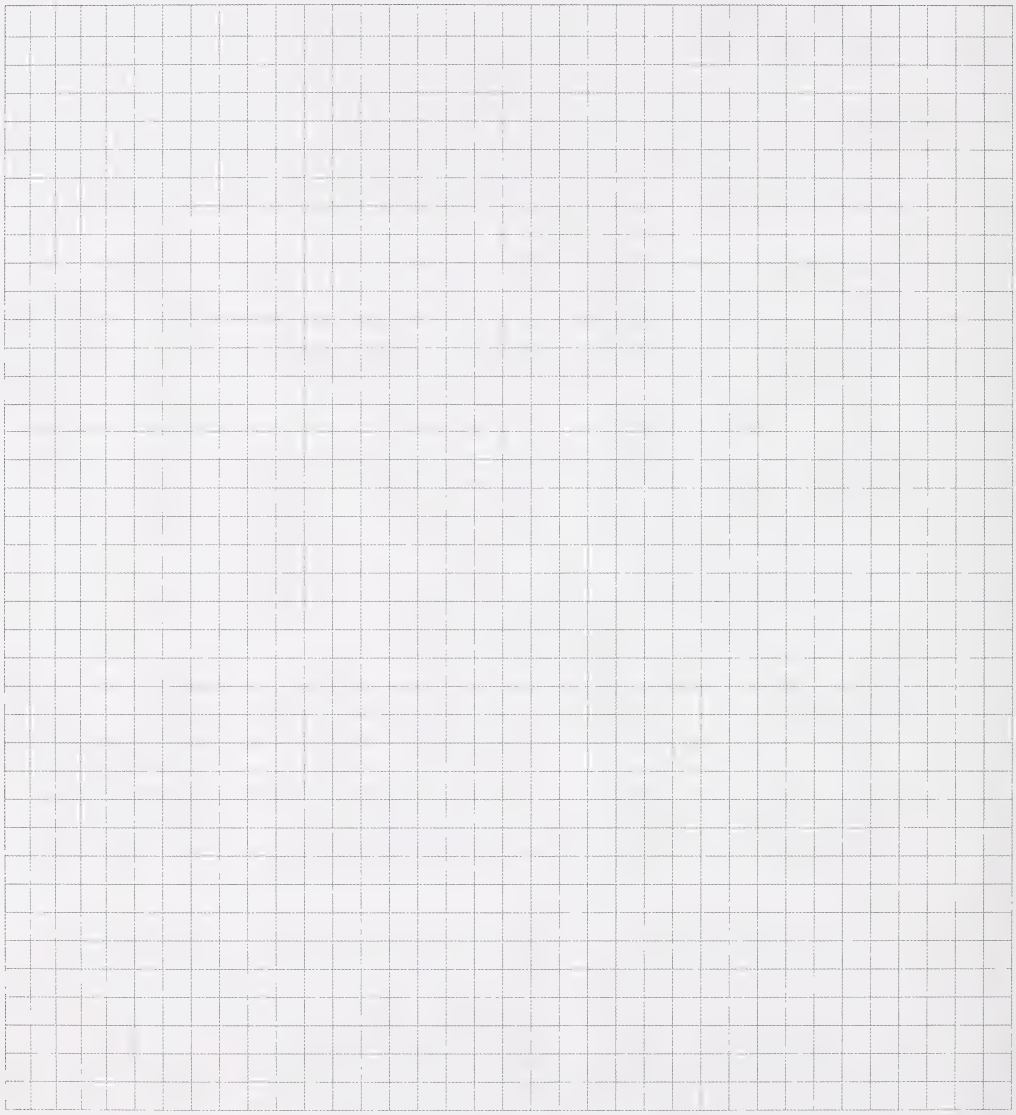


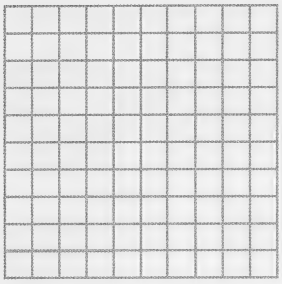
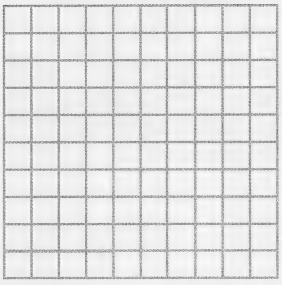
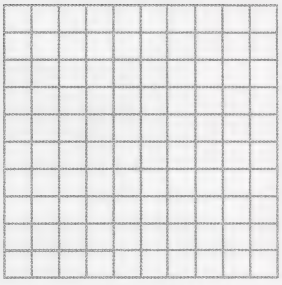
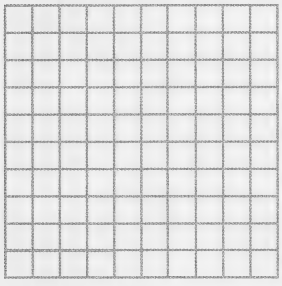
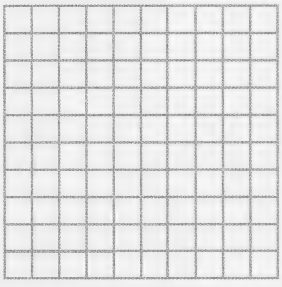
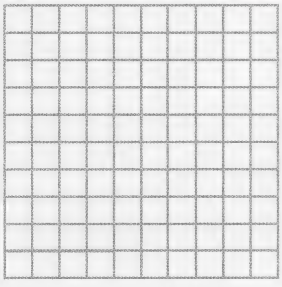
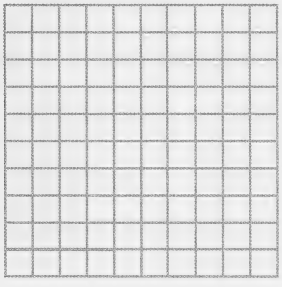
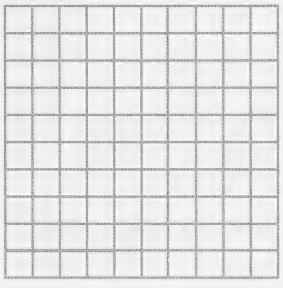
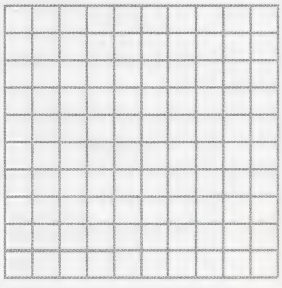
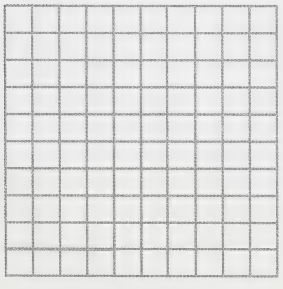
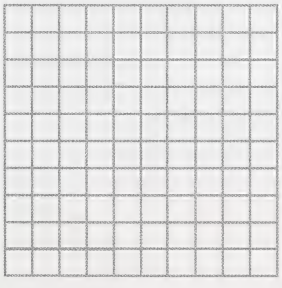
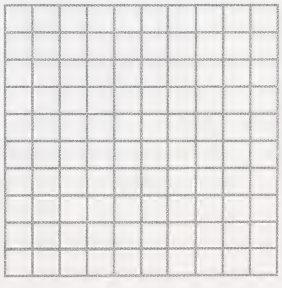


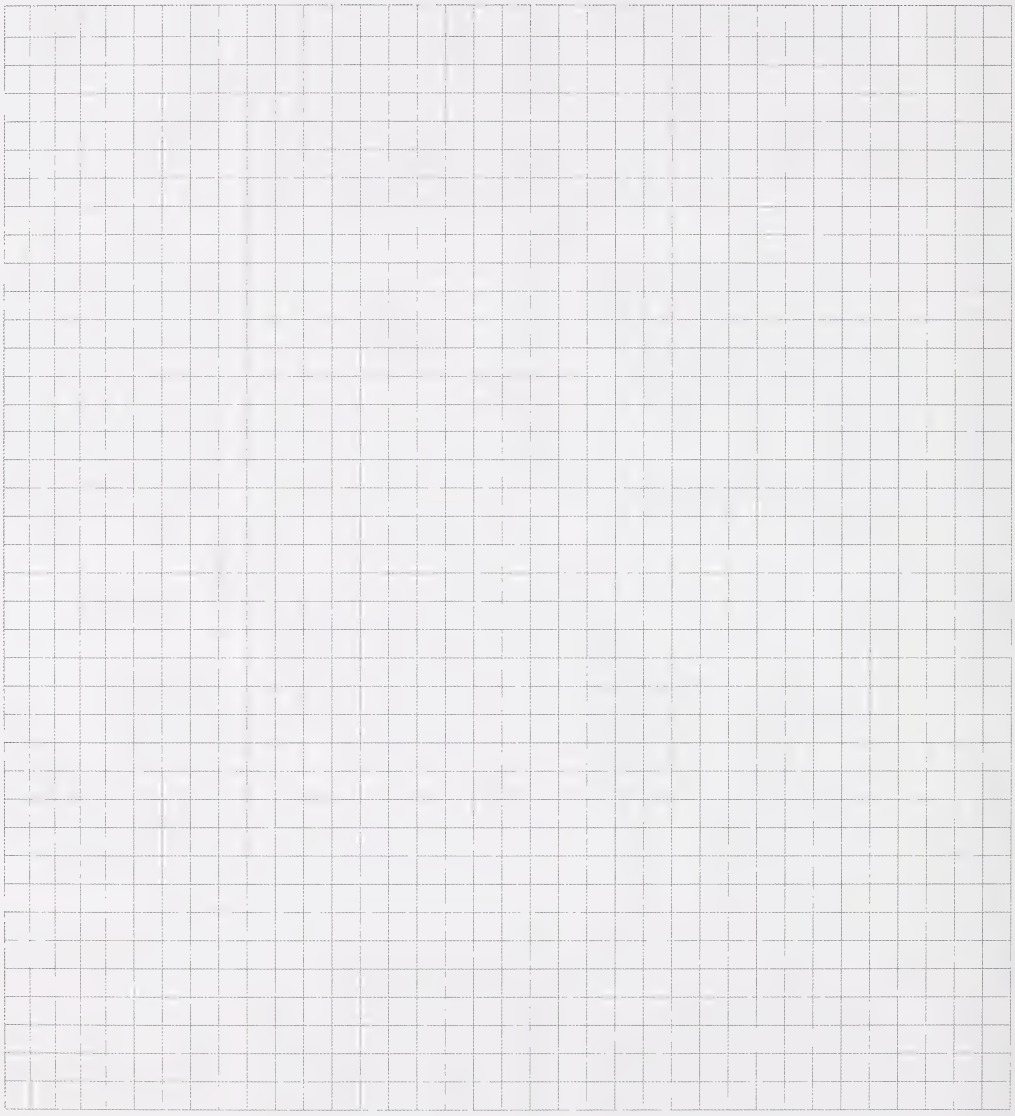






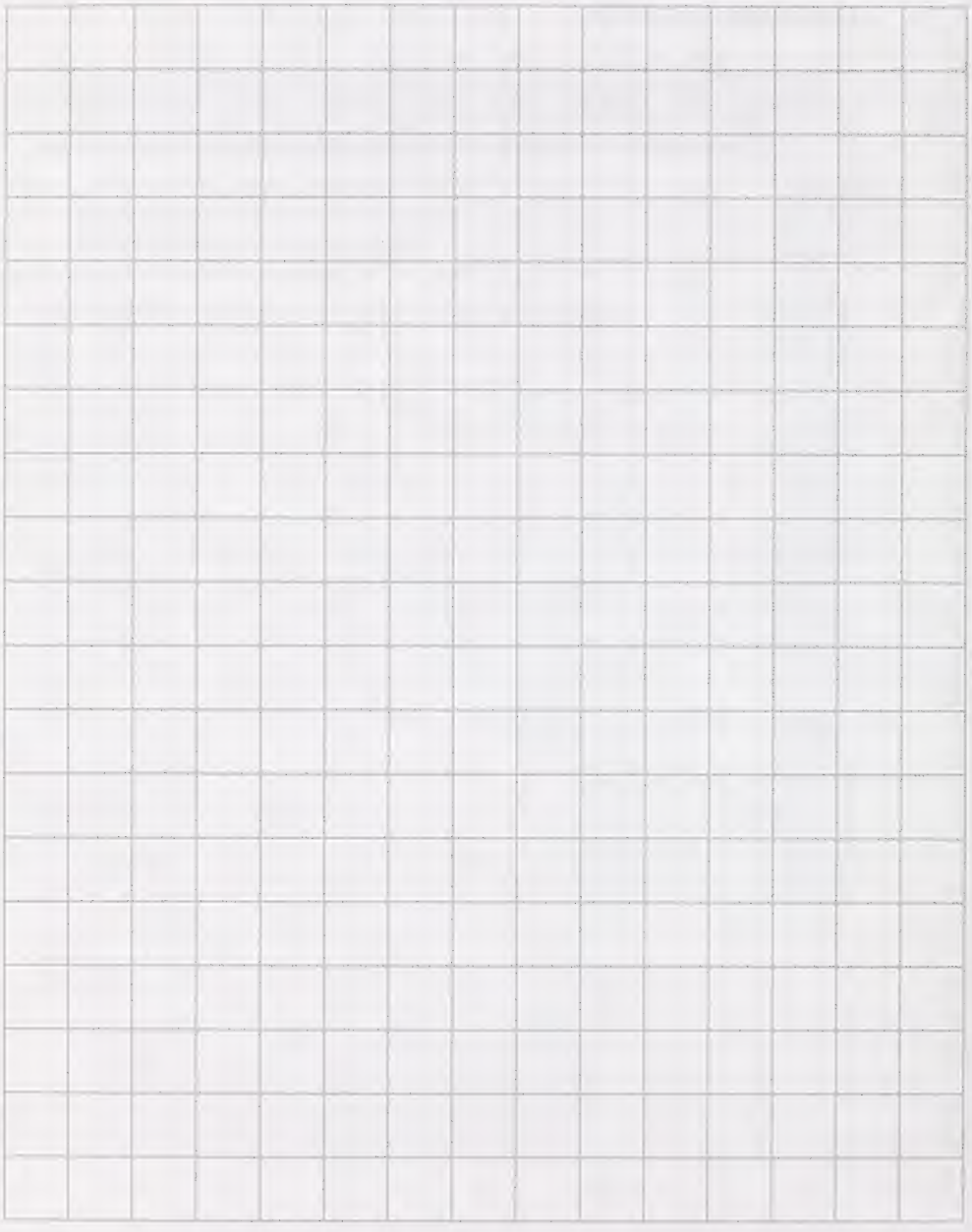


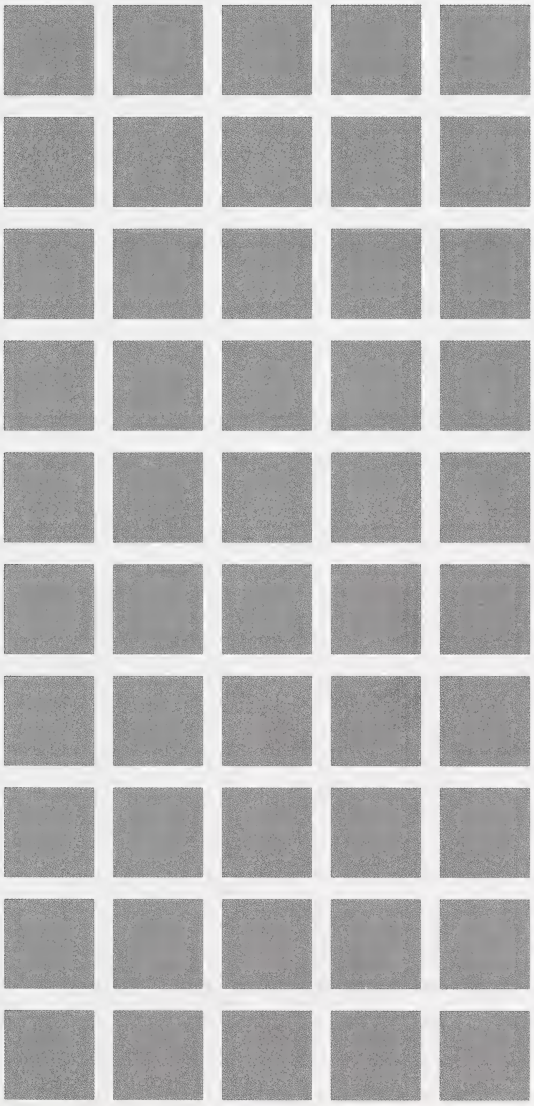


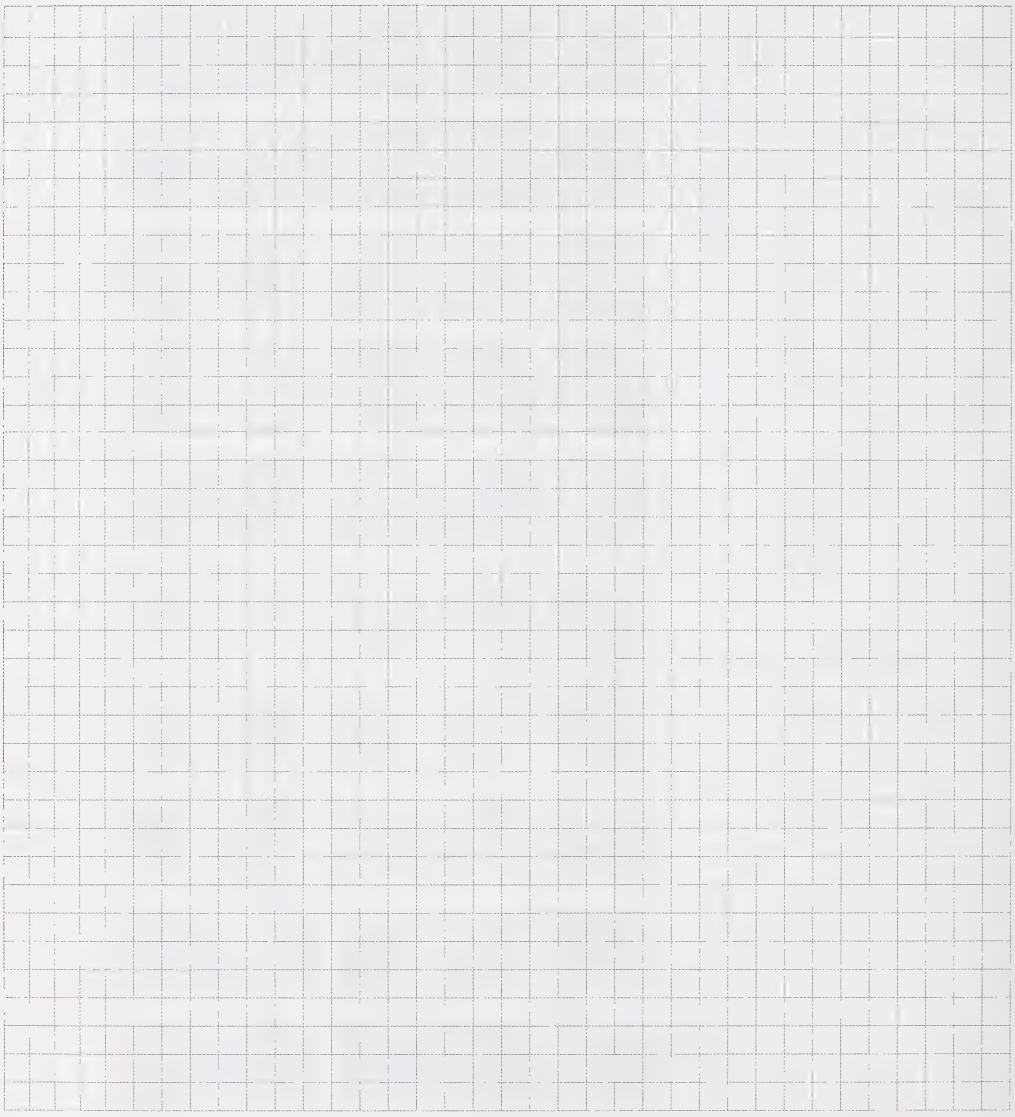
Multiplication Chart

x	1	2	3	4	5	6	7	8	9
1									
2									
3									
4									
5									
6									
7									
8									
9									



Counters

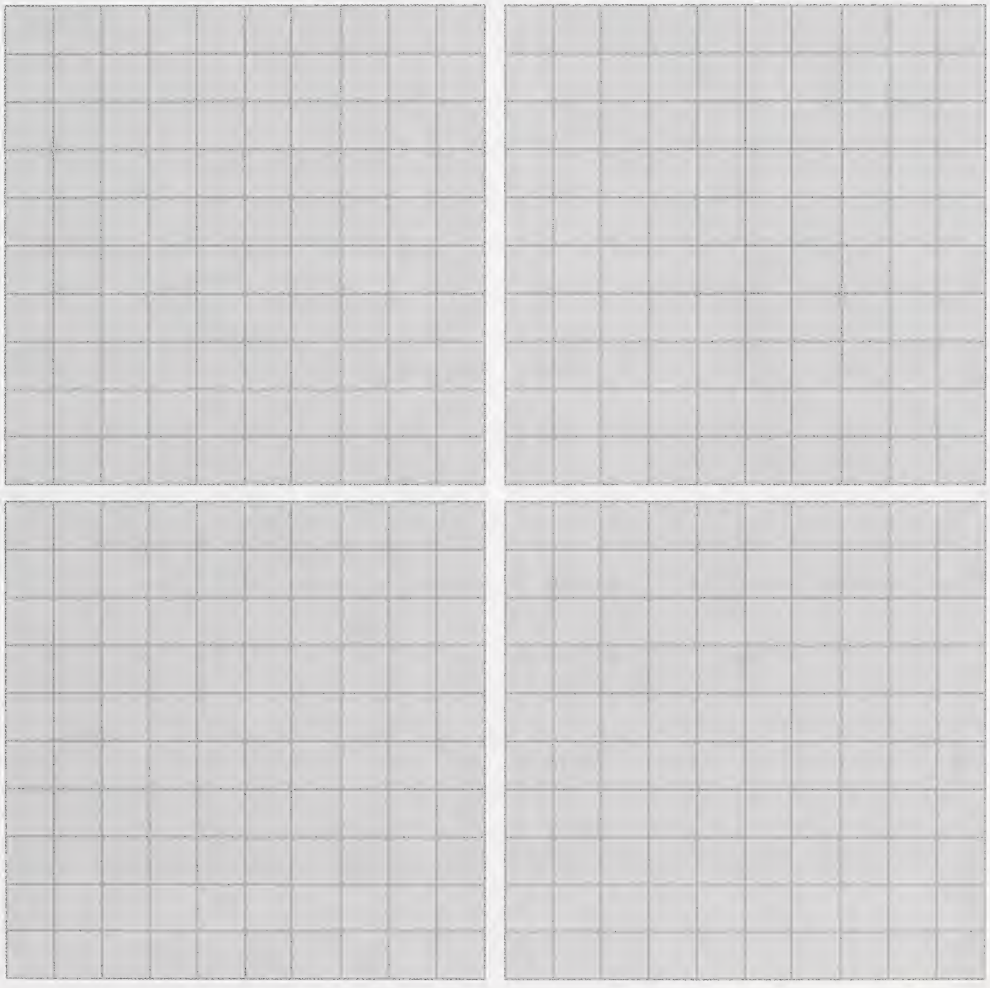




Base 10 Models

Cut these out to help you model numbers and decimals.

Flats



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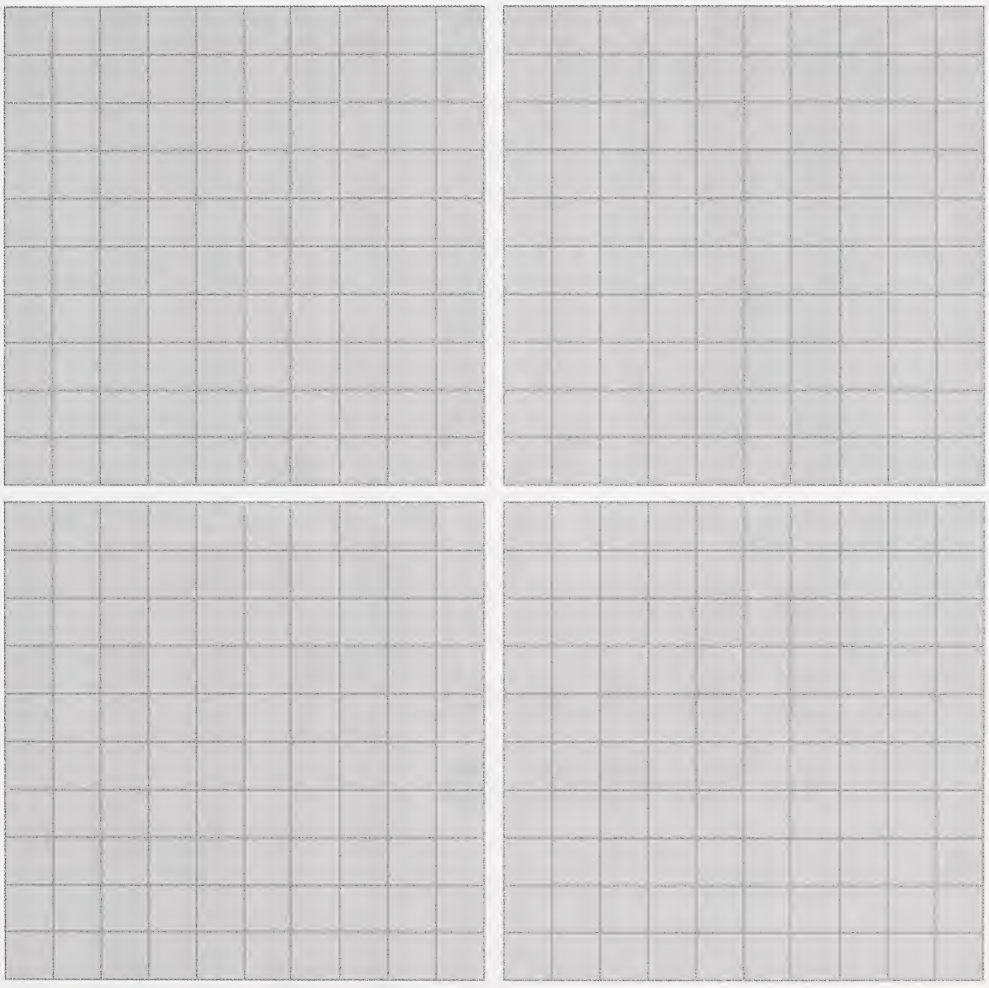
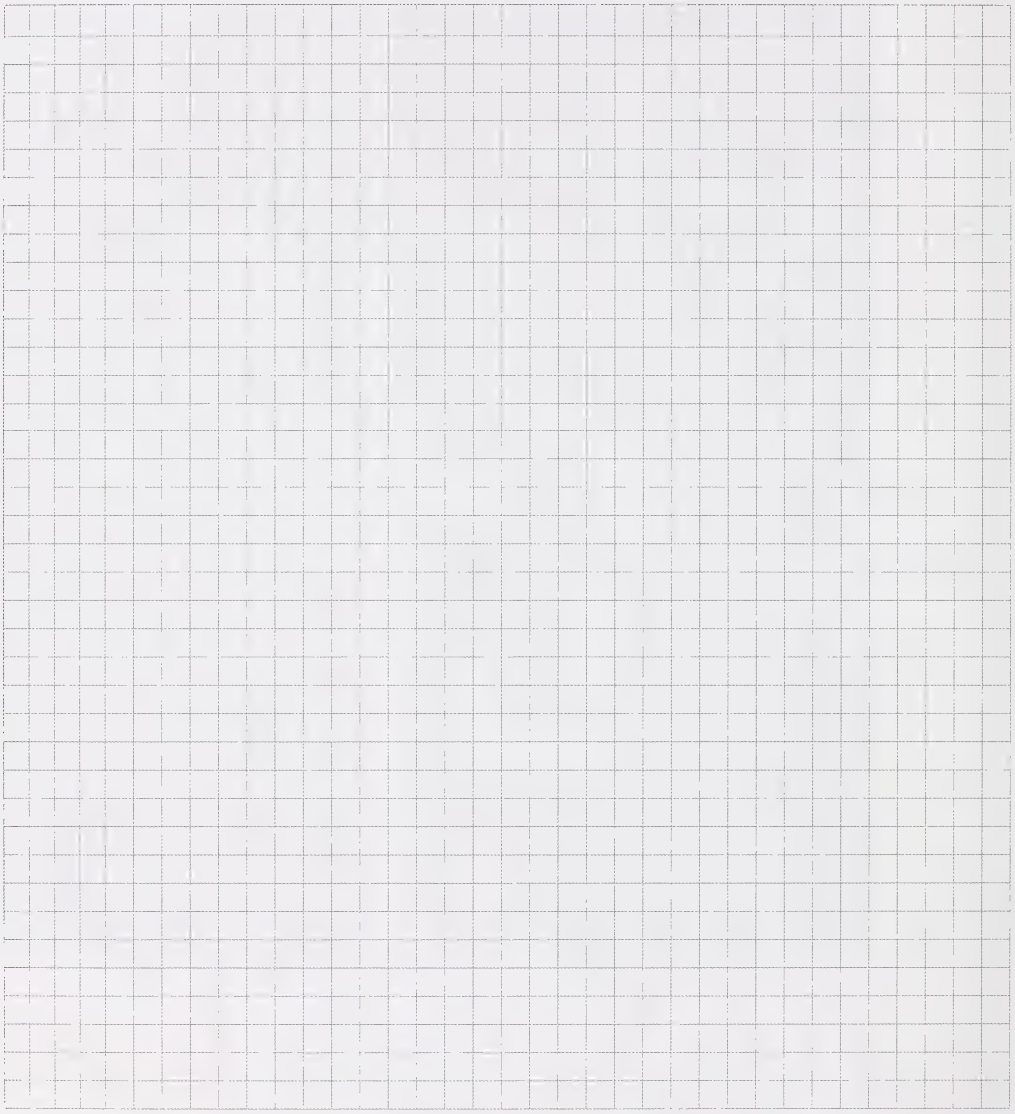
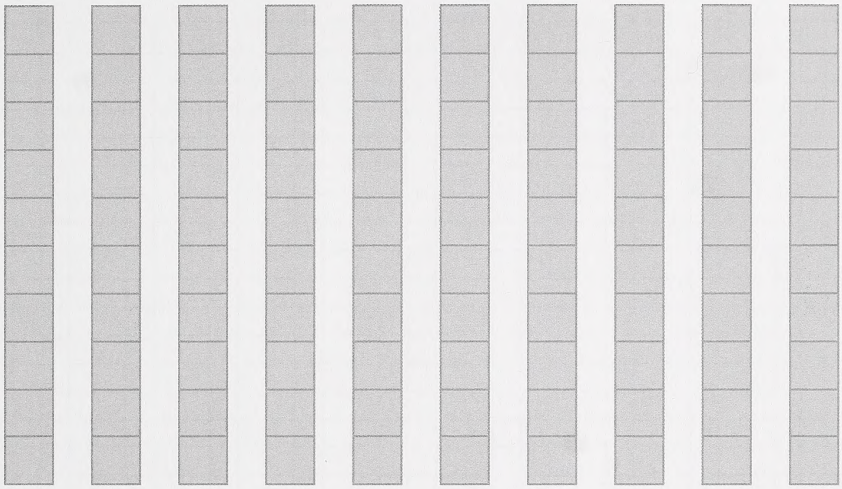
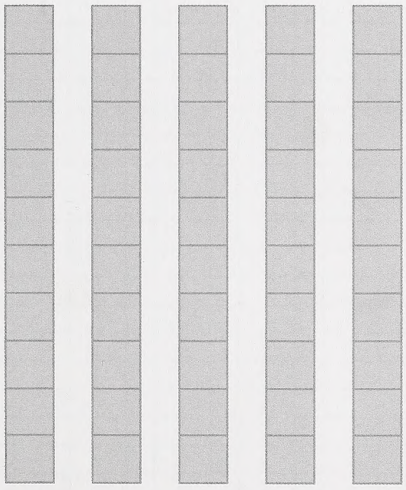


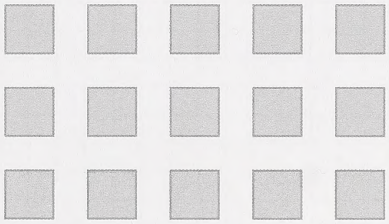


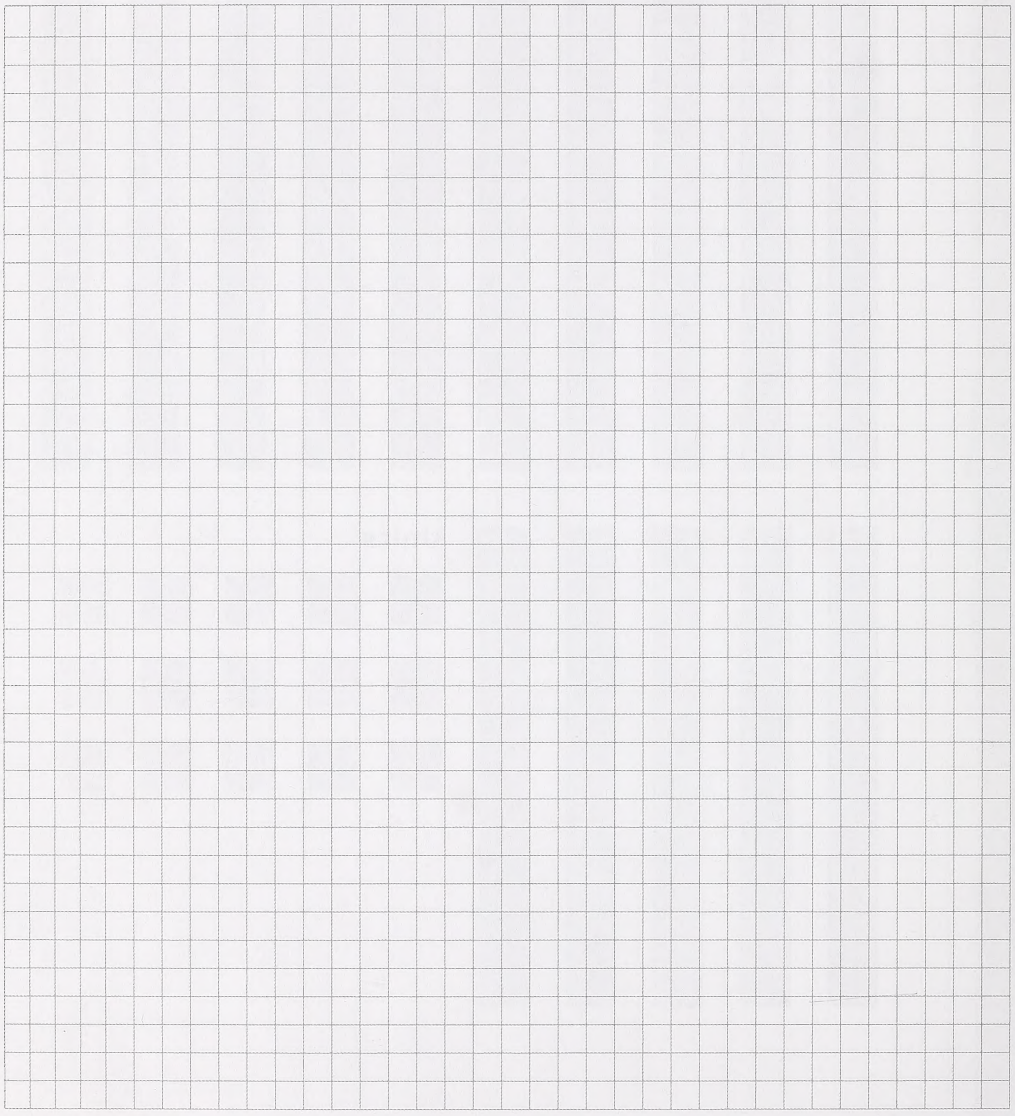
Longs





Units





ISBN 978-0-7741-3048-6